Exhibit 32

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June 7, 2019

VIA E-MAIL

bely@elylawllc.com

Brenen G. Ely, Esq.
Ely & Isenberg, L.L.C.
2100-B SouthBridge Parkway, Suite 380
Birmingham, AL 35029

RE: Insured: Bomasada
Policy No.: QTJ660-7E077026
Claim No.: FBS1747
Date of Loss: 9/27/2018

Dear Mr. Ely:

We are writing to let Travelers know that our industrial hygienist has completed the enclosed report which we believe significantly changes the scope of the claim, from both a property damage and business interruption/lost rents perspective. It is also clear that action must be immediately taken to mitigate additional damages.

You will see from the enclosed report that there are significant issues with potential safety, clean-up and remediation. We are taking steps to mitigate the ultimate damages and working as quickly as possible. To that end, it is critical that Travelers provide funding for some of these initiatives sooner rather than later.

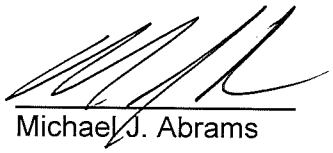
By way of example, on page 10 of the report, our consultant states that the buildings damaged by fire should be razed prior to any repair or cleaning in order to prevent ongoing contamination. Additionally, we are working to determine the best course of action with regard to the necessary evacuation of residents and employees from the premises. In addition, we understand that there are nearby buildings and residences owned by third parties that impact these issues. All of these things obviously add significantly to the total damages. As we collectively did not anticipate all of these expenses when the claim was filed, we anticipate that Travelers will want to readjust the claim.

Please let us know when you have discussed this urgent situation with Travelers and whether Travelers has any objections or suggestions with regard to the evacuations and

remediation/clean-up efforts, as suggested by the enclosed report. We look forward to hearing from you as soon as possible. Thank you for your prompt attention to this.

Very truly yours,

Lathrop Gage LLP

By: 
Michael J. Abrams

Enclosure

cc: Jason Johns, Esq. (via email)

Forensic Building Science, Inc.

Fire Damage Report

for

The Metropolitan
2700 7th Avenue South, Birmingham, AL 35233

Forensic Building Science, Inc.
2168 Juliet Avenue
St. Paul, Minnesota 55105
Phone: 651-222-6509
www.forensicbuildingscience.com

Forensic Building Science, Inc.

Project Information

Client: The Howarth Group **Project Address:** 2900 7th Avenue South Birmingham, Alabama 35322 **County:** Jefferson County	**Insurance Carrier:** Travelers **Policy #:** QT-660-7E077026-TIL-18 **Claim #:** FBS1747 **Reported Date of Loss:** September 27, 2018 **Claim Type**: Fire

FIELD REPORT FOR INITIAL FIRE LOSS INVESTIGATION

1.0 Background Information:

Forensic Building Science, Inc (FBS) was contacted by the Howarth Group to provide inspections and environmental testing of a four-story luxury apartment building complex that survived a fire which destroyed a stand-alone four-story building connected by a two-level skyway (enclosed bridge). The fire was determined to be arson by authorities.

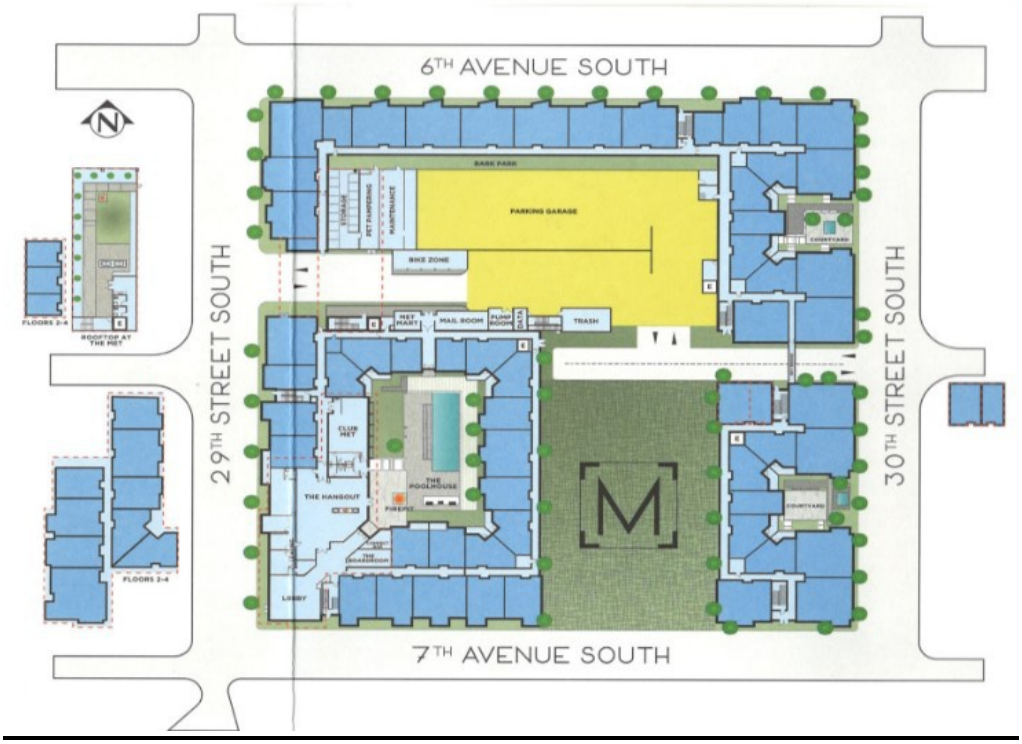
Our initial site visit occurred on Wednesday, 24 April 2019. That visit was conducted by Tom Irmiter and Frank Martin. During this visit, staff toured the site, performed a primary assessment on the structural damage sustained by the exposure to smoke, soot, and prolonged water used to control the spread of the fire. Our second site visit occurred on Wednesday, 8 May 2019, for purposes of assessing further damage and conducting soot sampling. During this same inspection, additional photos were taken of the remaining structures showing smoke, soot, and water damage.

During the second site visit, Jeremy Lansdown, Franklin Martin, and Kevin Steinke performed inspections and sampling following industry accepted practices. Sampling methodology considers the location of the fire, type of construction, both passive and mechanical air movement through the structures before, during, and after the fire event and estimated wind direction and speed during the event.

Use of sterilized inner-wall sampling adapters were used at select predetermined locations and cavities. Due to portions of Building #5 being open to other partially completed parts of the building, air infiltration and exfiltration which included smoke migration created a potential cross contamination sequence. In our opinion, based on the type of construction of the building, the methods used to fight the fire, and the sustained winds the night of the fire, smoke, soot, and particulate matter penetrated all aspects of the unfinished buildings and much of the finished building areas.

2.0 Building Information:

2.1 The subject property is a wood-framed, four-story, slab-on-grade, luxury apartment complex located in the Birmingham, Alabama, neighborhood of Lakeview. The complex consists of 19 different floorplans with 15-foot ceilings on the main level. The interiors have high-end finishes with quartz countertops, stainless steel appliances, oversized windows, and other high-quality amenities inside the units. The common areas consist of an outdoor pet playground, 24-hour cyber café workspace, training facilities, yoga lawn, social rooms with pool table, air hockey, T.V.'s, catering kitchen, pool area, and rooftop 'skylounge'.



On the night of September 27, 2018, shortly after midnight, the Fire Department was dispatched to fight a fire that occurred in the detached, southeast, stand-alone building that was accessible by skyways (bridges). According to information provided by local code officials the building was in the framing stage with open studs inside the building, exterior wall and roof sheathing installed (including exterior finishes), but without all the fireblocking and draftstopping installed on

the interior. As part of our investigation FBS conducted weather research into wind speeds and wind direction during the event. According to that research sustained high winds blowing in a northwest direction occurred. In our opinion, this could have resulted in winds carrying soot, water, and particulates onto, and throughout, all remaining structures interiors by way of the open bypasses throughout the complex and HVAC equipment which was operating in the occupied spaces. Furthermore, the method used to extinguish the fire was to flood the adjoining building #5 (i.e. 'surround and drown') directly to the north and northwest of the stand-alone building to ensure that there was no secondary fire caused by radiant heat exposure to the remaining buildings. The result was extensive damage in the remaining unfinished and non-conditioned buildings due to prolonged water exposure without subsequent drying within the next 24 – 48 hours as stipulated by most manufacture's for product viability in a re-use condition (American Plywood Association, 2005).

Summary

Temperature (° F)	Actual	Historic Avg.	Record
Precipitation (Inches)	Actual	Historic Avg.	Record
Precipitation	0.86	0.13	3.7
Month to Date	4.32	3.5	-
Year to Date	43.07	40.58	-
Degree Days (° F)	Actual	Historic Avg.	Record
Dew Point (° F)	Actual	Historic Avg.	Record
Dew Point	71	-	-
High	74	-	-
Low	68	-	-
Average	71	-	-
Wind (MPH)	Actual	Historic Avg.	Record
Max Wind Speed	25	-	-
Visibility	10	-	-
Sea Level Pressure (Hg)	Actual	Historic Avg.	Record
Astronomy	Day Length	Rise	Set

Figure 1: Information obtained from Weather Underground for 27 September 2018.

https://www.wunderground.com/history/daily/KBHM/date/2018-9-27?req_city=Birmingham&req_state=AL&req_statename=Alabama&reqdb.zip=35201&reqdb.magic=1&reqdb.wmo=99999

2.2 The scope of services for this inspection included the following:

Phase I:

- Review documents in the possession of the client.
- Perform site visits to walk through the structures and inspect the damage.
- Interview building management and/or client if possible, to establish locations where damage has been observed and/or occurred.
- At select locations, open floor, wall, ceiling and roof assemblies to document damage behind the outer layer of materials (gypsum [drywall] board, carpet, sub floor, ceilings and plenums, roof, etc.).
- Collect air, bulk, and tape lift samples at select locations. All samples to be analyzed by a Certified Industrial Hygienist (CIH) or approved laboratory.
- Submit all samples with a chain of custody to the CIH or lab for analysis.
- Produce analytical sample results.

Phase II:

- Include a report summarizing our observations, sample results and provide repair recommendations in consultation of licensed design professional and local contractor.

2.3 Based on our review of the file and our on- site inspections and sampling, damage from the fire event included the following:

- Roof assembly damaged.
- Exterior façade damaged.
- Windows damaged.
- Ensuing interior water damaged to every unit in Phases 4 and 5, with varying levels of soot, char or ash detected throughout Phases 1, 2, and 3.
- Damage to other miscellaneous exterior elements.

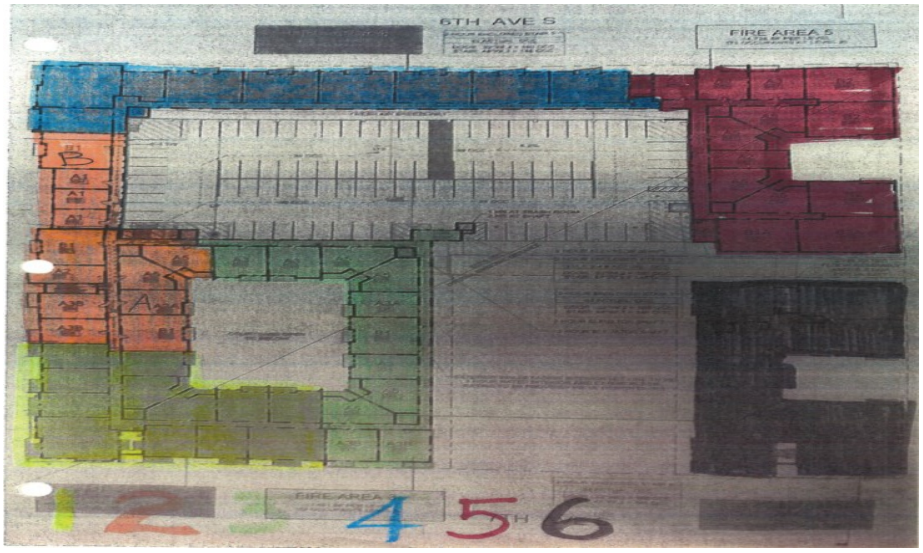


Figure 2: City's Classification of Building Spaces Based on Location of Fire Walls.

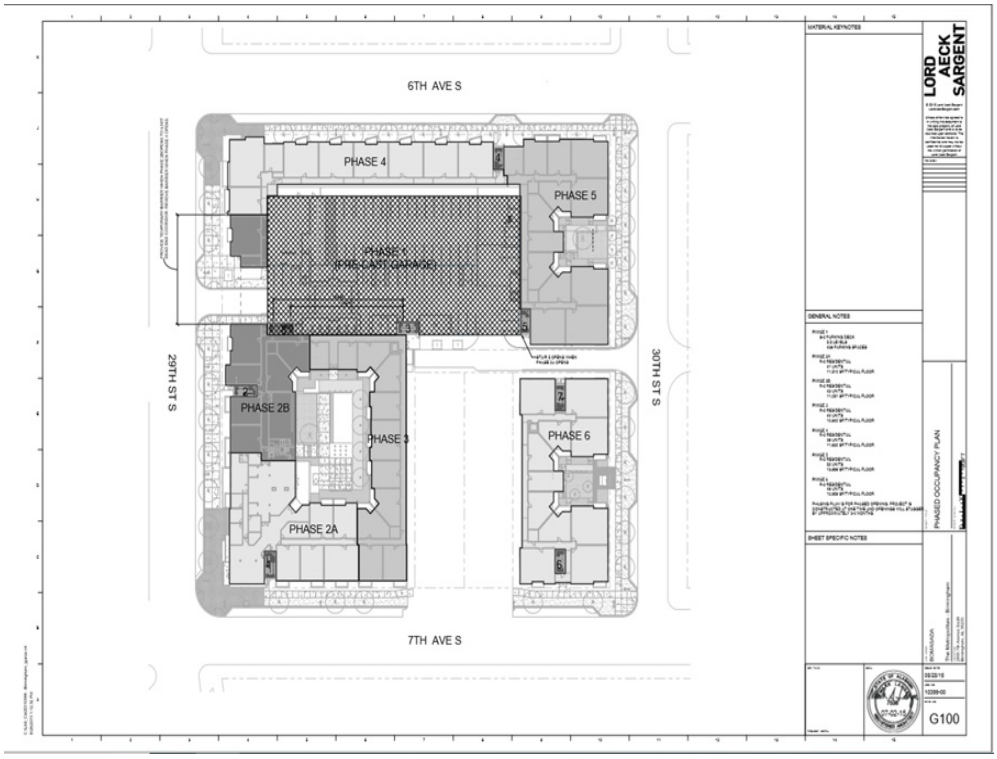


Figure 3: Architectural Plan with Corresponding Area Classifications.

The building permits for the overall project were issued on 14 January 2016. Based on the City's inspection information, all buildings were completely framed with exterior wall sheathing, roof sheathing, and flooring installed. The interiors for buildings 1, 2, and 3 were under Temporary Certificate Occupancy which allowed for those areas to be occupied by residents while buildings 4, 5, and 6 were still under various phases of construction. Not all areas in buildings 4, 5, and 6 had passed all their rough-in inspections; therefore, no drywall was installed to inhibit the fire. Based on our site inspections and review of data collected, in our opinion the open framing in phases 4, 5, and 6 allowed the fire, soot, smoke, and particulate matter to penetrate the interiors of all the buildings.

2.4 News Reports for the Fire Event:

The building's fire was reported on various news outlets in the area. Video footage showed the flames and smoke flowing over the remaining buildings while the free-standing building burned to the ground.

Birmingham Real-Time News:

https://www.al.com/news/birmingham/2018/09/massive_2-alarm_blaze_destroys.html

Channel 6, WBRC News:

https://www.wbrc.com/2019/03/28/atf-offering-reward-clues-massive-bham-apartment-fire/

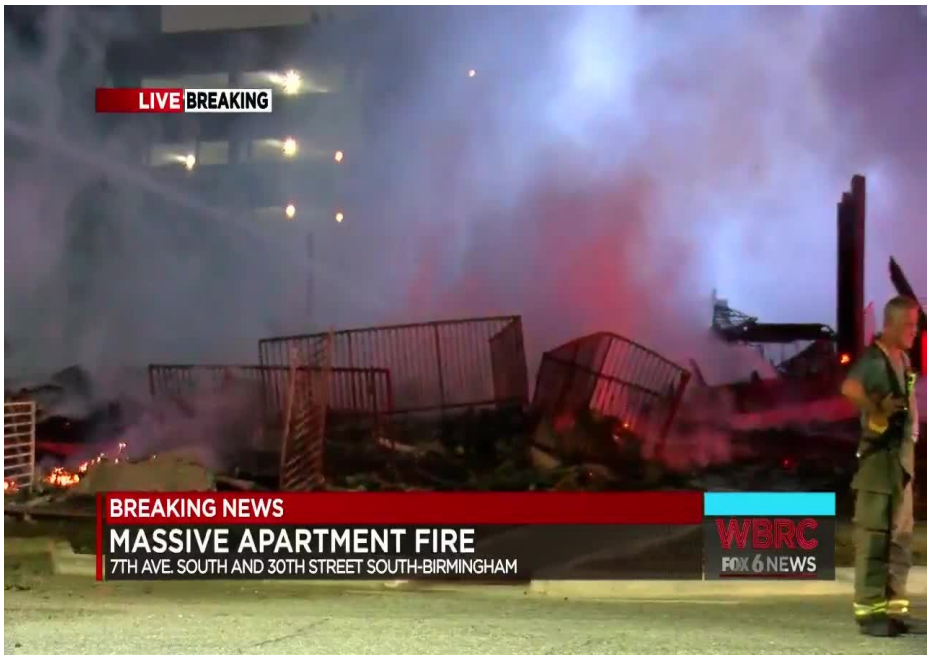


Figure 4: Free-standing building burned to the ground by early morning.

Figure 5: View of the free-standing building burned to the ground by morning. Notice the fire, smoke, and soot damage to the remaining building.

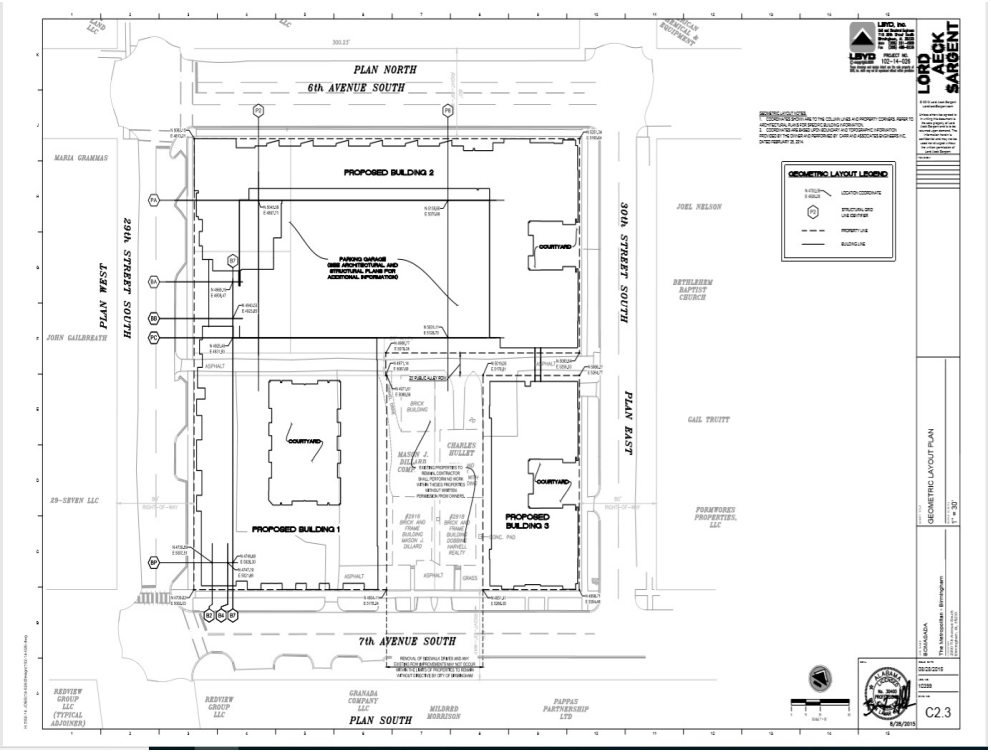
News WKRG Photo

News WBRC Photo

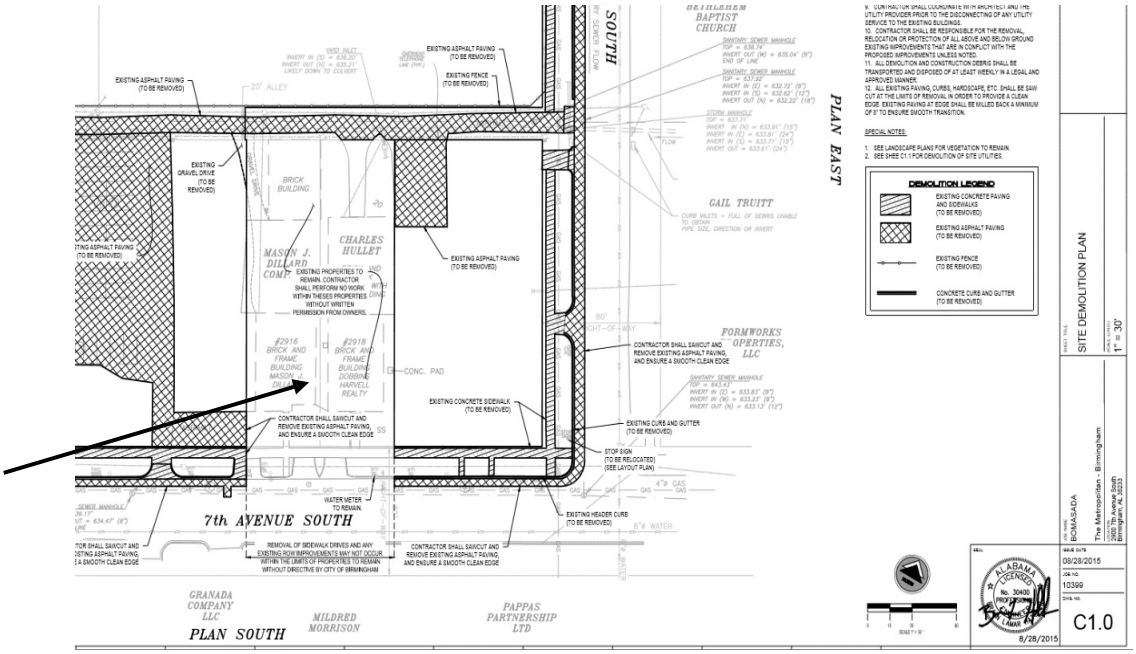
Pictures provided by the Howarth Group, obtained from the owner's group.

2.5 Images and Architectural Drawings Relating to the Property:

Google Earth Imagery (Date Unknown) before the Metropolitan was built. The two residential-style buildings on the east side of the property were present during the fire.



This is the geometric layout of the building as indicated on the approved building plans. The two residential-style structures are shown on the bottom of the page in the center.



The architectural plans clearly stated that the residential-style structures were to be left alone by the contractor while the Metropolitan was constructed around them; however, this would lead to ongoing contamination after the fire loss event. In our opinion, these buildings which were damaged by fire should be razed prior to repair and cleaning of the Metropolitan.

2.6 **The following claim related documents have been received:**

- Building plans supplied by the Howarth Group.
- Photos provide by Howarth Group.
- Phase 6 Estimate from Travelers
- Document from Siding manufacturer

2.7 **The following additional documents were used for reference:**

- According to the State of Alabama Building Commission, the following building codes were in effect at the time of permit issuance:
  - 2009 International Building Code
  - 2009 International Existing Building Code
  - ANSI/ASHRAE/IESNA Standard 90.1-2007 Energy Standard for Buildings Except Low-Rise Residential
  - 2009 International Fire Code
  - 2009 International Fuel Gas Code
  - 2009 International Mechanical Code
  - 2009 International Plumbing Code
  - Local amendments can be found here: (http://bc.alabama.gov/buildingcode.htm)

- Conversations with building inspections staff of Birmingham's Department of Planning, Engineering, and Permits:
  - Darren L Whitt, Deputy Director/Building Official
  - Charles Smith, Building Inspector
  - Douglas Wisham, Chief Mechanical, Plumbing, and Gas Inspector
    Gary Cauthen, Chief Electrical Inspector
- Forensic Building Science (FBS) photos taken by staff during site visits.
- Test results by N.G Carlson Analytical, Inc. from samples collected from FBS staff.
- Haag Education Haag Certified Roof Inspector Program, Residential Edition.
- Haag Education Haag Certified Roof Inspector Program, Commercial Edition.
- EPA: Moisture Control Guidance for Building Design Construction and Maintenance - Dec 2013 - P100HF07.
- ASTM E2128-12 Standard Guide for Evaluating Water Leakage for Buildings.
- ASHRAE R-Value Climate Zone Map.
- E108-10a Standard Test Methods for Fire Tests of Roof Coverings.
- American Society of Civil Engineers (ASCE) Standard, Guideline for Condition Assessment of the Building Envelope, SEI/ASCE 30-00, 2000.

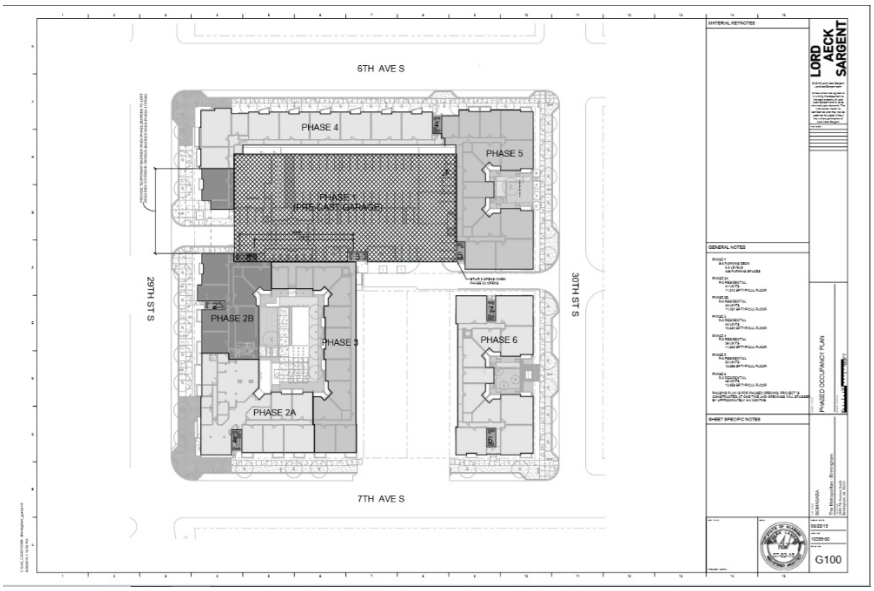
- American Society of Civil Engineers – "Guideline for the Structural Condition Assessment of Existing Buildings", ANSI/ASCE 11-90, ANSI Approved August 1991.
- American Society of Civil Engineers – "Minimum Design Loads for Buildings and Other Structure", ANSI/ASCE 7-95, Approved June 1996, ASCE 7-05 and related Commentaries.
- ASTM D7053 / D7053M - 17 Standard Guide for Determining and Evaluating Causes of Water Leakage of Low-Sloped Roofs.
- ARMA technical bulletin 115, The Effects of Ponding Water.
- SPRI, Construction-Generated Moisture and Its Effect on Roofing Systems, August 2008.
- GAF Roof Design Considerations, date unknown, http://www.gaf.com/Commercial_Roofing_Systems/Roof_Design_Considerations.pdf.
- RS-738-Insulation Installation Instructions.
- Standards: FM 4470, UL 1256, and CAN/ULC – S126M.
- E108-10a Standard Test Methods for Fire Tests of Roof Coverings.
- FAQs - Polyisocyanurate Insulation Manufacturers Association (PIMA).
- ASTM C578-08b Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.
- ASTM C1153 - 10(2015) Standard Practice for Location of Wet Insulation in Roofing Systems Using Infrared Imaging.
- ASTM E2268-04(2011) Standard Test Method for Water Penetration of Exterior Windows, Skylights, and Doors by Rapid Pulsed Air Pressure Difference.
- ASTM E1886, Standard Test Method for Performance of Exterior Windows, Curtainwalls, Doors, and Impact-protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials.
- ASTM E331-00 (09) Standard test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
- ASTM E547-00 (09) Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference.
- ASTM E2112-07 Standard Practice for Installation of Exterior Windows, Doors and Skylights."
- ASTM E783, Standard Test Method for Field Measurement of Air Leakage Through Installed Exterior Windows and Doors.
- ASTM E1105, Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Walls, by Uniform or Cyclic Static Air Pressure Difference.
- American Architectural Manufacturers Association (AAMA) 501.2-2009, Quality Assurance and Diagnostic Water Leakage Field Check of Installed Storefronts, Curtain Walls, and Sloped Glazing Systems.

- AAMA 511-08 – Voluntary Guideline for Forensic Water Penetration Testing of Fenestration Products.
- Specifying windows in High Wind Zones Cushman 2005. E1105 (08) STM for Field Determination of Water Penetration of Installed Ext Windows, Skylights, Doors, and Curtain Walls, by Uniform or Cyclic Static Air Pressure Differential.
- ESR 1547 Dryvit Outsulation RMD and SMD reissued July 1, 2012 ESR 1463.
- EMLA_920-09 Guide Specifications for Expanded Metal Lathing and Furring - Fifth edition.
- ESR 1232 Dryvit Outsulation reissued July 1, 2008.
- ESR 1543 Dryvit Outsulation Plus MD reissued August 1, 2008.
- ESR 1821 Dryvit Outsulation MD system reissued August 1, 2008.
- ESR 2375 Dupont Tyvek HomeWrap StuccoWrap DrainWrap October 1, 2009.
- Literature Review of EIFS and Stucco Finishes February 15, 2000
- Research Report 0406 Face-Sealed vs Drainable EIFS Lstiburek March 2004.
- Partial Rehabilitation: The Challenges of Tying-in a Drained Glazing System with a Face-Seal Wall System Mercier 2007 28c11.
- Tyvek Installation Manual Circa 2012.
- Gypsum Association GA-231-06 "Assessing Water Damage to Gypsum Board."
- Relationship Between Moisture Content and Mechanical Properties of Gypsum Sheathing - Phase 2 Research, by Alex P. McGowan, from the 11th Canadian Conference on Building Science and Technology, Banff, Alberta, 2007.
- ESR 1046 Gypsum Association Gypsum Board Interior and Exterior Applications. March 1, 2005.
- ESR 1338 Gypsum Wall Ceiling Assemblies. February 1, 2010.
- ANSI-IICRC S500 Water Damage Restoration – IICRC.
- APA – The Engineered Wood Association (2005). Assessing Water Damage After A Flood. *APA – The Engineered Wood Association.*
- Pittman, A, P.E. (2012). Engineered Wood Products Exposed to Floodwaters. *STRUCTURE Magazine,* 26-28.
- NFPA2015.
- ASTM D6602-13 Standard Practice for Sampling and Testing of Possible Carbon Black Fugitive Emissions or Other Environmental Particulate, or Both.
- ASTMD4840GuideforSampleChain-of-CustodyProcedures.
- N.G. Carlson Analytical, Inc. Lab Reports dated January 1, 2017.
- MicroVision Lab Report dated January 10, 2017.

- American Industrial Hygiene Association (AIHA), The Industrial Hygienists Guide to Indoor Air Quality Investigations, (1992).
- Synergist.aiha.org/201610 Evaluating-a-Structure-Fire Article.
- American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE); Thermal Environmental Conditions for Human Occupancy – ASHRAE Standard (ANSI/ASHRAE55-2008) (2008).
- Centers for Disease Control (CDC), National Center for Environmental Health (NCEH) Website: www.cdc.gov/nceh www.cdc.gov/nceh
- Fire Fighter Fatality Investigation Report F98-03 | CDC/NIOSH.
- ADMINISTRATIVE REPORT DATE: January 20, 1998 PUBLICHEALTH SERVICE/CDC/NIOSH/DSR FACE 98-03 Two Fire Fighters Die of Smoke and Soot Inhalation in Residential Fire Pennsylvania.
- Morphological and elemental classification of freshly emitted soot particles and atmospheric ultrafine particles using the TEM/EDS. Tumolva-L; Park-JY; Kim-JS; Miller-AL; Chow-JC; Watson-JG; Park-KAerosolSci Tech 2010 Mar.
- A summary of a NIOSH fire fighter fatality investigation Fatality Assessment and Control Evaluation Investigation Report # F2007-18.
- Department of Energy (DOE) Handbook: Fire Protection Volume II Fire Effects on Electrical and Electronic Equipment, DOE-HDBK-1062-96, August 1996.
- Drysdale, D. “An Introduction to Fire Dynamics” Wiley and Sons, 1985.
- Environmental Protection Agency (EPA), website,www.epa.gov.
- Institute for Inspection, Cleaning and Restoration Certification (IICRC), website.ww.iicrc.org/consumers/ care/fire-smoke-restoration.
- National Air Duct Cleaners Association (NADCA) ACR 2005-Assessment, Cleaning and Restoration 2005.
- New York City Department of Health (NYCDH), “Exposure to Smoke from Fires” (accessed October10, 2013),www.ny.gov.
- National Institute of Environmental Health Sciences (NIEHS), website,www.niehs.nih.gov.
- National Institute for Occupational Safety and Health (NIOSH) website: www.niosh.gov
- ANSI/UL 723, Standard for Test for Surface Burning Characteristics of Building Materials, 2008, Revised 2010.
- ANSI/FM 4880, American National Standard for Evaluating Insulated Wall or Wall and Roof/Ceiling Assemblies, Plastic Interior Finish Materials, Plastic Exterior Building Panels, Wall/Ceiling Coating Systems, Interior or Exterior Finish Systems, 2007.
- NFPA 921, Guide for Fire and Explosion Investigations, 2014 edition.

- FIRE DAMAGE, OR EQUIPMENT BREAKDOWN? Vytenis Babrauskas, Ph.D.
- Carbon Black and Soot: Two Different Substances Ann Y. Watson 2010Article Peter A. Valberg.
- Industrial Hygiene-What is Soot and Why is it Dangerous? Cashins December 11, 2013.
- Technical Bulletin: Effects of Smoke Corrosion to Equipment and Electronics Mark Schafer, Senior Consultant and Project Manager of Electro-mechanical Recertifiers, Inc.

3.0 Structure Information:



Architectural Floorplan of Buildings by Phases.

3.1

Type of Construction:	5A (Apartments) and 1B (Parking Ramp)
Fire Suppression System:	Yes; both NFPA 13 and NFPA 13R
Number of Stories:	4
Number of Fire Areas:	6 (Originally)
Height of Building:	60’ Above Grade Plane
Surface Roughness:	B
Exposure Category:	B
Wind Speed:	90

The structures are wood-framed buildings constructed on slab-on-grade foundations. For background clarification, there are two different reference documents that have to be used throughout the claims for the insurance project; therefore, the City of Birmingham’s information which breaks out the building components based on Fire Wall locations and the architect’s plan which breaks out portions of the building into six phases.

3.2 In the immediate area around the building there is ground-level parking and developed commercial property. The buildings typically low-rise buildings on four sides. In our opinion, the buildings, surrounding areas and adjacent buildings lend itself to a "Wind Exposure Category B" as defined in ASCE -7, both historically, at the time of loss, and currently.

26.7.2 Surface Roughness Categories

A ground Surface Roughness within each 45° sector shall be determined for a distance upwind of the site as defined in Section 26.7.3 from the categories defined in the following text, for the purpose of assigning an exposure category as defined in Section 26.7.3.

Surface Roughness B: Urban and suburban areas, wooded areas, or other terrain with numerous closely spaced obstructions having the size of single-family dwellings or larger.

Surface Roughness C: Open terrain with scattered obstructions having heights generally less than 30 ft (9.1 m). This category includes flat open country and grasslands.

Surface Roughness D: Flat, unobstructed areas and water surfaces. This category includes smooth mud flats, salt flats, and unbroken ice.

(Source: ASCE 7-10)

26.7.3 Exposure Categories

Exposure B: For buildings with a mean height of less than or equal to 30 ft (9.1 m), Exposure B shall apply where the ground surface roughness, as defined by Surface Roughness B, prevails in the upwind direction for a distance greater than 1,500 ft (457 m). For buildings with a mean roof height greater than 30 ft (9.1 m), Exposure B shall apply where Surface Roughness B prevails in the upwind direction for a distance greater than 2,600 ft (792 m) or 20 times the height of the building, whichever is greater.

Exposure C: Exposure C shall apply for all cases where Exposure B or D do not apply.

Exposure D: Exposure D shall apply where the ground surface roughness, as defined by Surface Roughness D, prevails in the upwind direction for a distance greater than 5,000 ft (1,524 m) or 20 times the building height, whichever is greater. Exposure D shall also apply where the ground surface roughness immediately upwind of the site is B or C, and the site is within 600 ft (183 m) or 20 times the building height, whichever is greater, from an Exposure D condition, as defined in the previous sentence.

(Source: ASCE 7-10)

3.3 According to Metropolitan maintenance personnel and owners, and during the FBS staff visits, ongoing work has been performed since the fire event. Temporary repairs to the property are as follows:

- Sheetrock has been removed from interior fire-rated and non-fire-rated wall, ceiling and firewall assemblies.
- Insulation has been removed from wall, ceiling, and roof/ceiling assemblies.
- Temporary repairs were performed to many of the apartment units by contractors and subcontractors; including, painting of the units, replacement of cabinetry, replacement of windows, replacement of roofing, replacement of siding, and ancillary work in and around the buildings.

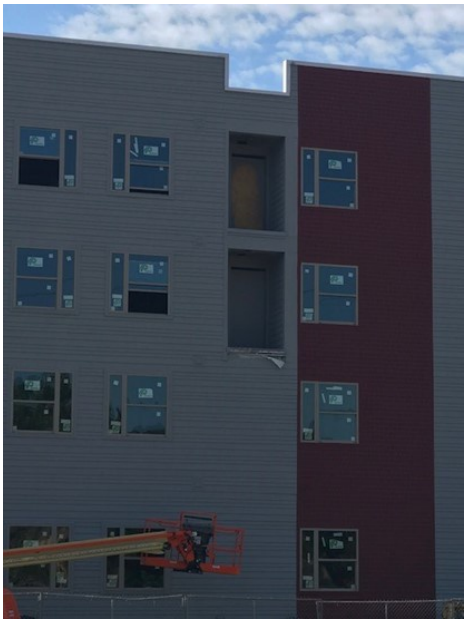
4.0 Exterior Observations:

All accessible areas of the exterior wall assemblies were visually inspected from the ground. The extent of damage varied as we went around the areas of each phase of construction. For example, the area directly facing the fire event showed 'bowing' and 'bellies' in the exterior wall assembly consistent with damage from the fire to both the siding and underlying framing. On the back elevation of Phase 1, we observed cracking in the E.I.F.S. consistent with water in the system. These cracks carry into the caulking around the windows and doors. Additional moisture mapping and probing should occur at these locations to determine the extent of damage.

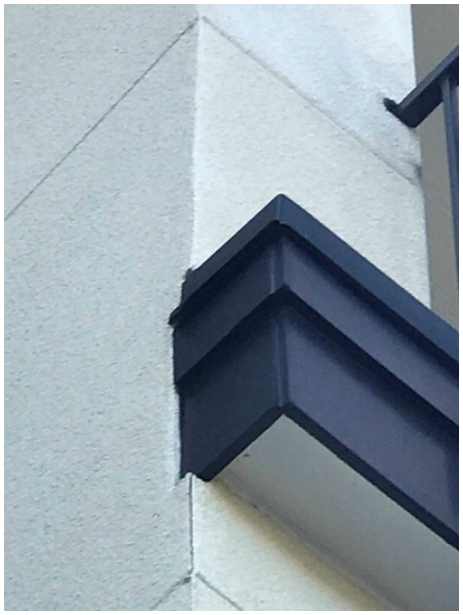
4.1 **Exterior Façade Damage:**

Damage to the exterior related to fire and water used to extinguish the fire includes, but may not be limited to, the following:

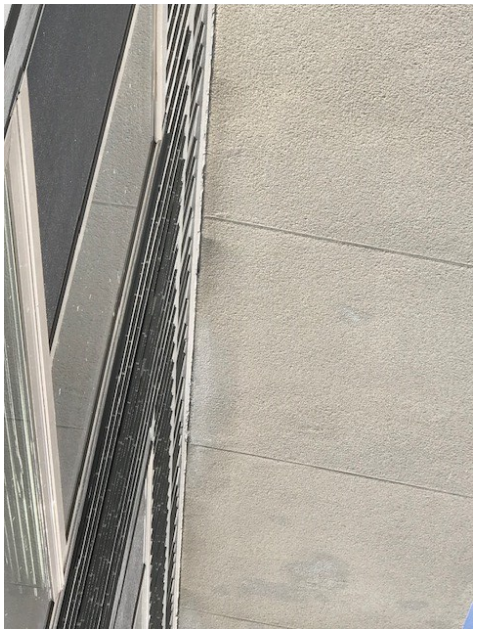
- Window damage.
- Siding damage.
- Damage to point finishes.
- Roof assembly damage.
- Damage to ducting.
- Damage to rooftop equipment.



Two exterior sides directly facing Phase 6 that burned down. There is visible bulging in the exterior wall assemblies; furthermore, the manufacturer is requiring that all the siding be replaced, and underlayment inspected for viable reuse.



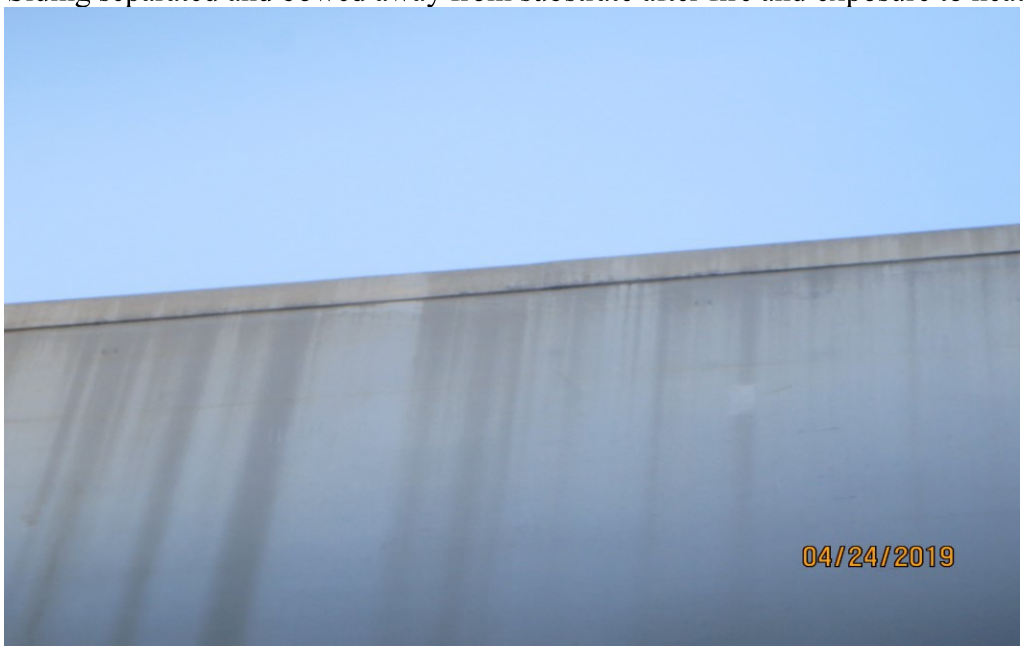
Exterior EIFS is cracking through corners and panels indicating significant water intrusion, followed by expansion and contraction cracking. The EIFS must be removed, the drainage plane restored, and EIFS reapplied to achieve a pre-loss condition.



Repairs to flashing show missing flashing, and evidence of water damage that would require removal and replacement.

Damaged exterior siding needs to be replaced

Siding separated and bowed away from substrate after fire and exposure to heat.



Smoke damaged EIFS needs to be cleaned and repainted.

5.0 Interior Observations:

All accessible areas of the building were assessed, however not all areas were available for inspection. There are areas of Phase 1 and Phase 2 that are actively being occupied by renters; therefore, access into occupied units was not available. Finished units on all floors that were vacant were accessed and subsequent non-destructive sampling and visual inspections performed.

5.1 Interior Common Areas Damages:

Damage to the interior related to fire, smoke, soot, and water includes, but may not be limited to, the following:

- The entire floor system including subfloor and trusses has been damaged throughout Phase 5. Sections of subfloor could easily be penetrated by foot traffic. Portions of the subfloor have been damaged in Phases 3 and 4.
- There is heavy smoke, soot, and fungal growth throughout the interior of Phase 4 and 5.
- Stairs, landings, and components of the Exit Access system have been compromised by the fire event in that lumber material has warped, twisted, cracked, and failed to a point where floors are no longer able to sustain the weight of people walking on them.

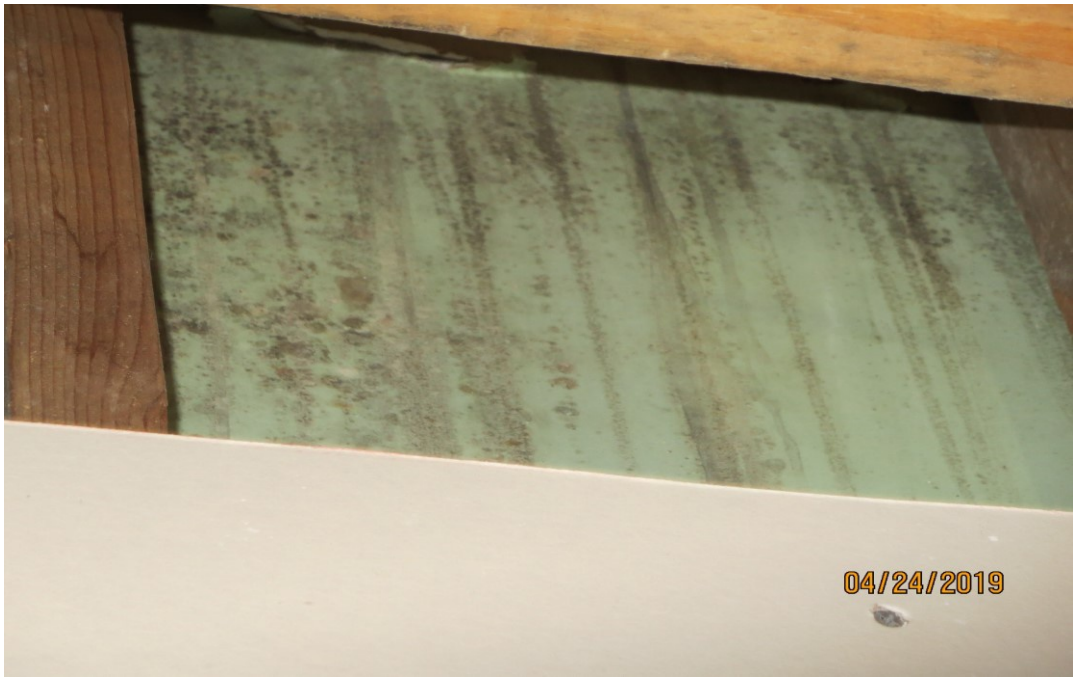
Water damage, smoke and soot contamination in the framing of Phase 4.

Typical subfloor water damage in phase 5 requiring full replacement

Typical water damage, soot and smoke damage Phase 5

Side profile of water damaged subfloor Phase 5

Typical water and soot damage Phase 4-5 intersection



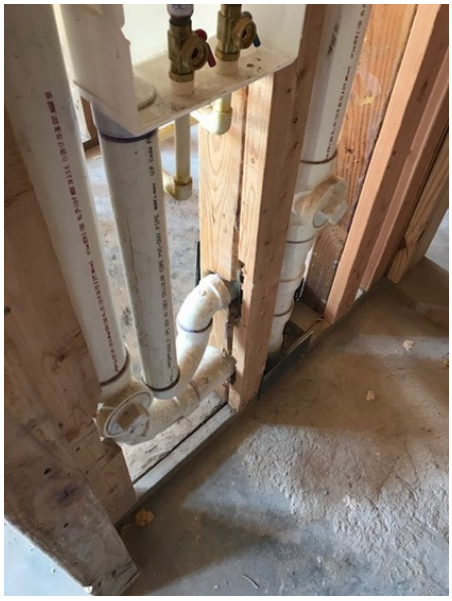
Typical water and soot damage Phase 4-5 intersection

Typical water and soot damage Phase 4-5 intersection

Active water during inspection from area where upper roof phase 4-was damaged by fire

Phase 4 water damage

Typical subfloor condition phase 5. Subfloor under both partition and exterior walls must be removed and replaced.



Typical Damaged Subfloor at Phase 5

All water, fire-damaged, smoke and soot contaminated sheathing must be removed and replaced. All framing either cleaned, sealed or replaced. All framing modifications that have been made during the repair process (e.g. removed blocking, bracing, fire blocking and draft stopping) must be restored to a pre-loss condition.

All framing either cleaned, sealed or replaced. All framing modifications that have been made during the repair process (e.g. removed blocking, bracing, fire blocking and draft stopping) must be restored to a pre-loss condition.

.

All framing either cleaned, sealed or replaced. All framing modifications that have been made during the repair process (e.g. removed blocking, bracing, fire blocking and draft stopping) must be restored to a pre-loss condition.

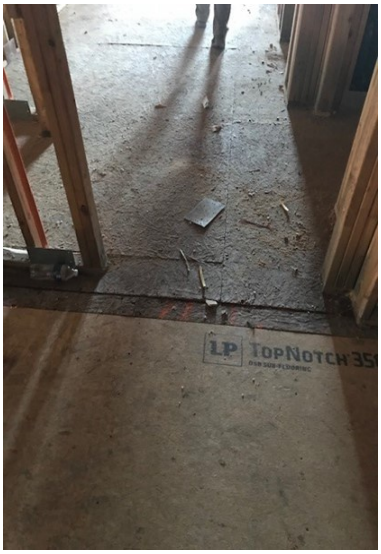
All remaining fire blocking and draft stopping elements must be assessed for reuse. Areas where pieces of sheetrock have been 'taped' in place, must be removed, and replaced. This will require removing all existing mechanicals for the drywall replacement. Once replacement has been done, then new penetrations reinstalled with code-compliant sealing around annular spaces.

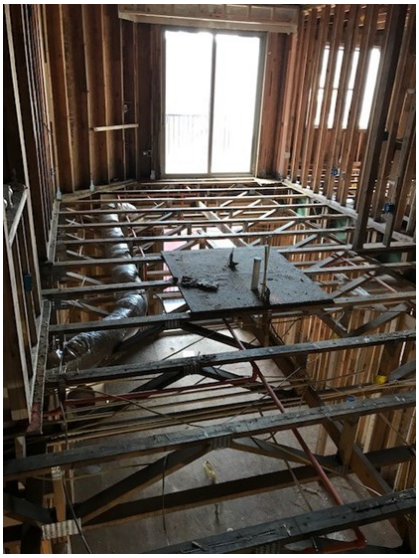
Fire walls have been damaged by the fire event. Framing has separated from the sheetrock that was part of the fire wall assembly. To regain code-compliance, these walls must be removed and rebuilt with all layers and fasteners inspected by the municipal building inspectors to verify compliance with their corresponding design selection from the Gypsum Association (including STC ratings).

Exposure to massive amounts of water during the 'surround and drown' method of protecting the remaining buildings without corresponding drying of the framing has caused systemic delamination in the OSB floor assemblies. Weight of individuals applied to the floor system causes failure resulting in people's feet going through the floor.

Flooring throughout units, corridors, and common areas have been identified for replacement; however, all areas of the flooring (including under the walls) must be removed and replaced.

Interior wall assemblies incorporating core-board must have surrounding walls demolished, all smoke and soot removed, and new core board reinstalled around the interior shafts.





Replacement of subfloor must be corner to corner. This may be achieved by installation of continuous shoring, jacking up walls to separate from floor systems, remove the damaged floor sheathing, sliding new floor sheathing under the walls, floor by floor. All work should be done under the supervision of a structural engineer. This will require removal of exterior siding, windows and sheathing. Removal of mechanical and electrical will be required depending on location. [See Phase 5 preliminary scope of repairs below]

Mechanicals affected by framing repairs must be inspected by municipal building inspectors to ensure that there are no further life/safety violations that could result in further damage to the structure. This will require air tests on the drain, waste, and vent elements of the plumbing system, and inspection of the electrical systems throughout the building.

The corridors leading to the skyway must have all the water and fire-damaged, smoke, and soot damaged material removed and replaced.

Repairs in the corridor resulted in the smoke gaskets being stripped from the doors in the rated fire walls. Gaskets from the door manufacturer must be reinstalled in all fire-rated door assemblies.

6.0 **Sampling Methodology& Procedures:** [Prior to sampling FBS reviewed floor plans and documents referenced above in section 2.0.]

6.1 Building Codes and Standards protect buildings of all types for damages caused by fires. Section 3.3.26 of the NFPA Life and Safety Code defines the exposed open areas and partitioned areas in a structure two ways:

3.3.26 Atmosphere.

3.3.26.1 ***Common Atmosphere.*** The atmosphere that exists between rooms, spaces, or areas within a building that are not separated by an approved smoke barrier. (SAF-END)

3.3.26.2 ***Separate Atmosphere.*** The atmosphere that exists between rooms, spaces, or areas that are separated by an approved smoke barrier. (SAF-END).

Based on my training as a code official this structure is defined as a **"Common Atmosphere"** area and as such is more vulnerable to damage from soot and smoke than a **"Separate Atmosphere Area"** as defined by the fire codes. While there is a fire separation wall between the living areas of the structure, there are no smoke barriers in this complex. In our opinion, proper scopes of repairs after a fire loss must first establish if the movement of soot and smoke in a building is possible from one part of the building to another based-on design and conditions. When central supply and return ducting is incorporated into the design, the spread of smoke and soot is exacerbated. Conditions at the building at the time of the fire loss were in place to allow for the free distribution of air throughout the structure. Those conditions existed before, during and after the fire.
Any attempt at cleaning surfaces in an open atmosphere building is useless due to continued cross contamination.

The Fire Codes we are referencing are intended to accomplish four things:

1. Save occupant lives.
2. Save Firefighters lives during the fire extinguishing process.
3. Save or salvage parts of the structure that are not at the cause and origin location of the fire.
4. Protect the surrounding building from fire spread.

Limiting the spread of fires is accomplished by various methods including:

1. Use of fire-retardant building materials
2. Unit fire separation walls
3. Fire rated floors and ceiling assemblies
4. Fire suppression systems
5. Individual components within the floor, wall and ceiling assemblies which are designed to "block" fire spread
6. Building separation distances known as setbacks

Little if anything in fire code **"Common Atmosphere"** design addresses the spread of smoke and soot either within the structure itself when the cause and origin is inside the structure, or when the fire surrounds but does not consume the structure or part of it. Typical fire code requirements are designed to save lives and building, but do not address soot deposited by air movement.

Many building products that face outward to the fire and are exposed to the smoke and soot from the fire have surfaces that are less porous due to installation of wall coverings and paints onto their exposed surfaces. This condition was observed in this structure. The backside facing of these materials is typically unfinished and in a "raw" condition. For example, Gypsum wallboard and batt insulation are very porous and more susceptible to infiltration of smoke and soot into the porous material. In addition, copper wire encased on PVC plastic coating and hidden in conduit can fracture, melt and degrade from the compounds within the soot.

Every structure has as part of its intended design or develops from use, open bypasses that allow for movement of air both from the inside to the outside, commonly called exfiltration, and from the outside in, commonly called infiltration. While energy codes address these bypass locations as concerns for loss of heat in the colder climates and loss of cool air in warmer climates, most of the focus is on the outside envelope, not the interior partition walls and how these communicate with ceilings and floors throughout a building. This open communication between these various assemblies, for example between the hall and sleeping rooms and between floors, often result in soot deposits in these wall cavities after a fire event. This can often lead to catastrophic losses due to deposits of carcinogenic soot into walls, floors and ceilings hundreds of feet away from the cause and origin of a fire.

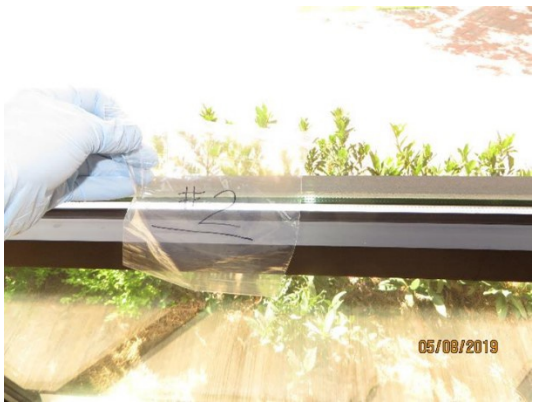
6.2 FBS collected a total of 72 samples at the building: 40 samples on May 8, 2019 and 32 samples on May 9, 2019. The primary purpose of the sample collection was to determine whether ash, char and or soot consistent with base line samples taken from the surviving portion of the building closest to the fire-destroyed building had spread to other parts of the structure. Our investigation focused on hidden cavities typically overlooked during smoke damage cleaning efforts. These included the wall cavities, ceiling assemblies, mechanicals, electrical boxes and areas around the elevator hoistway in the building to aid in determining a proper scope of repair.

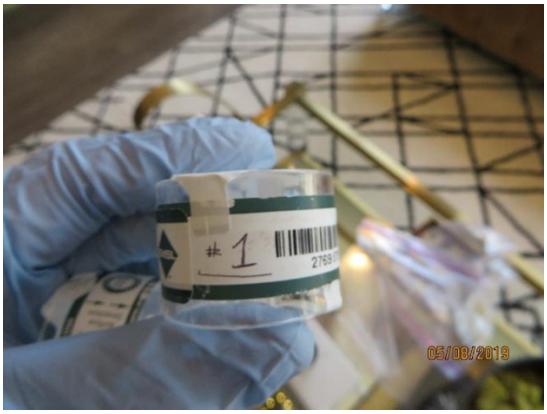
6.3 All air samples were collected with a Zefon Bio-Pump Plus air sampling pump calibrated to run at a volume of 15 liters per minute. The sample duration varied by location. The air samples were collected with Air-O-Cell sampling cassettes using standard accepted sampling techniques. Analysis of all Air-O-Cell cassettes was by a CIH and was presumptive consistent with industry accepted norms and based on the training, education and experience of the industrial hygienist.

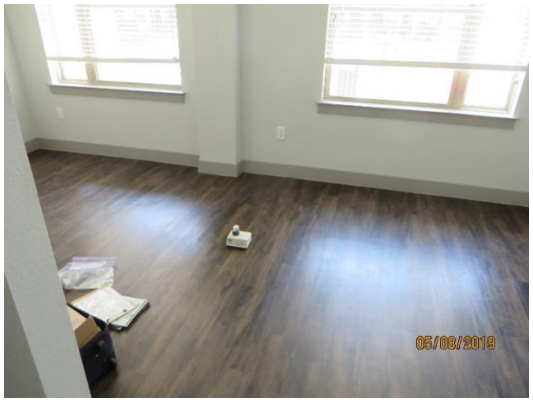
6.4 The ambient air samples were collected for a five-minute sample period to use for comparison purposes. The wall cavity air samples were collected with the use of a sterile wall cavity adapter tube. Each tube was used only once, then discarded. At each wall cavity, the tube was inserted into the wall/ceiling or conduit/pipe space as far as possible.

The tape lifts were collected on wall or ceiling surfaces where the presence of char and soot was suspected to exist. There was evidence of extensive cleaning and demolition associated with repairs after the fire. Bulk samples of furnace filters were taken from units that were available to rent to determine if contaminants were present in the ambient air. Tape lifts were analysed using four different methods to compare with presumptive Air-O-Cell cassettes sample analysis. Concurrent tape lift samples were taken at the origin location along with numerous other locations for baseline comparison purposes between presumptive analysis and more definitive analysis.

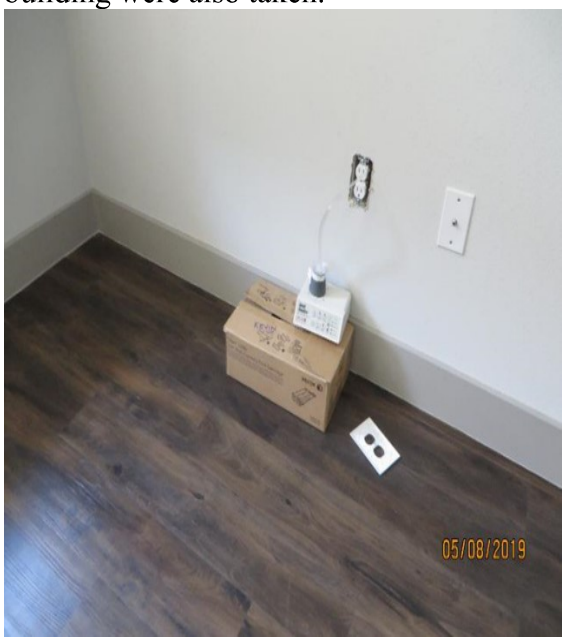
6.5 All samples were collected and entered a chain of custody. After the sampling was completed, the samples were delivered to Neil Carlson, CIH, of NG Carlson Analytical. The analysis of the results is included in the report from both labs.







Photographic evidence of air sampling and tape lifts taken from the finished areas of the building units ready for rental. Other areas throughout the open-framed areas of the building were also taken.



Photographic evidence of air sampling from electrical outlets and tape lifts for the floor of a plenum in the furnace of a finished unit ready for rent.

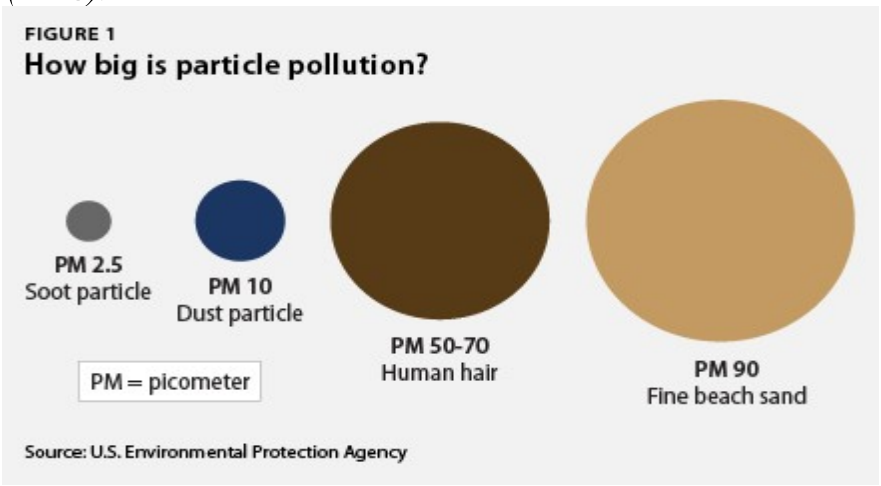
Photographic evidence of a grab sample from a furnace filter in the furnace of a finished unit ready for rent.

6.6 **Description of Soot**

Definition of Soot:

Soot is a general term that refers to the black, impure carbon particles resulting from the incomplete combustion of a hydrocarbon. It is more properly restricted to the product of the gas-phase combustion process but is commonly extended to include the residual pyrolyzed fuel particles such as cenospheres, charred wood, petroleum coke, etc. that may become airborne during pyrolysis and which are more properly identified as cokes or chars. The gas-phase soots contain polycyclic aromatic hydrocarbons (PAHs).

The PAHs in soot are known mutagens and human carcinogens. Soot is in the general category of airborne particulate matter, and as such is considered hazardous to the lungs and general health when the particles are less than five micrometers in diameter, as such particles are not filtered out by the upper respiratory tract. They are classified as a "Known Human Carcinogen" by the International Agency for Research on Cancer (IARC).



7.0 Chain of Custody

NG. Analytical Inc.
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Pager: 612-621-4819
Email: carls001@umn.edu

Name: Forensic Building Science, Inc. (Page 1 of 8)
Address: 2168 Juliet Ave.
St. Paul, MN 55105
Phone: 651.222.6509
e-mail: teirmiter@forensicbuildingscience.com

Sample location: 2900 7TH Ave. S. Birmingham, AL 35233 **Project Name:** Metropolitan

Send Billing Invoice to: **Date of Sampling:** 5/8/19

Sample #	Location & Culture Media	Sample type (B) bulk (F) cassette filter (A) Andersen air (C) contact agar (T) tease tape (O) other; describe	Counts	Type and Number of Organisms
1	Phase I - Lobby Ambient 5 min	(F)		
2	Phase I - Lobby South Window Frame	T		
3	Phase I - Unit 130 Ambient 5 min	(F)		
4	Unit 130 Baseboard	T		
5	Unit 130 West Wall Outlet 2 min	(F)		
6	Unit 130 Air Filter	Bulk		
7	Unit 130 Inside Plenum	T		
8	2ND Floor Hall North Painted Drywall	T		
9	Unit 219 Bedroom 1 - Ambient 5 min.	(F)		
10	Unit 219 Bedroom 2 Door Trim	T		

Sample(s) collected by: Kevin Steinke KS 5/8/19

Remitted to: Neil Carlson **Date:** 5/14/19 **Recipient Signature:** Neil Carlson

Remitted to: _____ **Date:** _____ **Recipient Signature:** _____

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Analysis by: Neil Carlson, Neil Carlson **Date:** 5/14/19 – 5/16/19
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11	Phase I - Unit 219 Kitchen Island 5 min -Ambient	(F)		
12	Unit 219 Bedroom 3 Painted Drywall	T		
13	Unit 219 Bedroom 1-Closet Base board	T		
14	Phase I - Floor 2 Mech Room Painted Drywall	T		
15	Phase I - Unit 315 Bedroom 5 min -Ambient	(F)		
16	Unit 315 Living Room Outlet Cover	T		
17	Unit 315 Bathroom Closet Door Trim	T		
18	Unit 417 Loft 5 min -Ambient	(F)		
19	Unit 417 Loft -Baseboard	T		
20	Unit 417 Bedroom-Window Sill	T		

Sample(s) collected by: Kevin Steinke 5/8/19

Remitted to: Neil Carlson **Date:** 5/14/19 **Recipient Signature:** Neil M Carlson

Remitted to: _____ **Date:** _____ **Recipient Signature:** _____

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Sample #	Location & Culture Media	Sample type (B) bulk (F) cassette filter (A) Andersen air (C) contact agar (T) tease tape (O) other; describe	Counts	Type and Number of Organisms
21	Phase II - Unit 238 Bathroom Wall Cavity 2-min	(F)		
22	Unit 238 North Wall Window Sill	T		
23	Phase II Unit 232 Painted Drywall near Sprinkler	T		
24	Unit 232 [redacted] Inside Pleenum	T		
25	Unit 232 Living Room 5min - Ambient	(F)		
26	Phase II - North Hallway Outside Unit 240. Insulation Sample	Bulk		
27	Phase II - North Hallway Outside Unit 240 Wood ceiling joist	T		
28	Phase II - North Hallway 3RD Floor, near Unit 342 5min - Ceiling Cavity	(F)		
29	Unit 336 Kitchen Island 5 min - Ambient	(F)		
30	Unit 336 Living Room Window Trim	T		

Sample(s) collected by: Kevin Steinke 5/8/19

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31	Phase II - Unit 344 Bedroom 2 5 min - Ambient	(F)		
32	Unit 344 Master Bed Window Sill	T		
33	Unit 344 Guest Closet Baseboard	T		
34	Phase II - Unit 438 Lvg. Rm. Circuit Box 2 min.	(F)		
35	Unit 438 Living Rm - Painted Drywall	T		
36	Unit 442 Liv. Rm - Doorbell casing	T		
37	Unit 442 Master Bath - Mirror Trim	T		
38	Phase II - Unit 137 5 min - Ambient	(F)		
39	Unit 137 Interior Wall Framing	T		
40	Unit 137 West exterior wall Insulation	Bulk		

Sample(s) collected by: Kevin Steinke 5/8/19

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Send Billing Invoice to:

Date of Sampling: 5/9/19

Sample #	Location & Culture Media	Sample type (B) bulk (F) cassette filter (A) Andersen air (C) contact agar (T) tease tape (O) other; describe	Counts	Type and Number of Organisms
41	Phase IV - S. Ext. Wall Behind Siding	T		
42	Phase I - E. Ext. Wall Behind Siding	T		
43	Phase I - E. Ext. Wall Behind Siding 2 min.	(F)		
44	Phase I - E. Ext. Wall Medium vent duct 2 min.	(F)		
45	Phase I E. Ext. Wall Large Vent Duct 5 min.	(F)		
46	Same Large Vent Duct (as #45)	T		
47	Phase I E. Ext. Wall Exhaust Vent Duct	T		
48	Phase IV - S. Ext. Wall Exhaust Vent Duct 2 min	(F)		
49	Phase I Roof Inside A/c unit housing 5 min of 118 or 218	(F)		
50	Phase II Roof A/c cover of unit 437 or 337	T		

Sample(s) collected by: Kevin Steinke 5/9/19

Remitted to: Neil Carlson **Date:** 5/14/19 **Recipient Signature:** Neil G Carlson

Remitted to: _____ **Date:** _____ **Recipient Signature:** _____

Remitted to: _____ **Date:** _____ **Recipient Signature:** _____

Remitted to: _____ **Date:** _____ **Recipient Signature:** _____

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Send Billing Invoice to: **Date of Sampling:** 5/9/19

Sample #	Location & Culture Media	Sample type (B) bulk (F) cassette filter (A) Andersen air (C) contact agar (T) tease tape (O) other; describe	Counts	Type and Number of Organisms
51	Phase III E-W Hallway A/C Unit by Unit 447	T		
52	Phase III Unit 447 Master Bedroom Door Header	T		
53	Phase III Unit 445 5-Minute	(F)		
54	Phase III Unit 446 Bedroom Window Sill	T		
55	Phase III Unit 448 Hallway Stud Wall	T		
56	Phase III Unit 449 5-minute By Kitchen Island	(F)		
57	Phase III Unit 450 Master Bedroom Light Switch Box	T		
58	Phase III Unit 451 Master Bath Stud Wall	T		
59	Phase III Unit 452 Living Room Window Frame	T		
60	Phase III ~~Interior~~ A/C Duct (Coop) outside Unit 445	T		

Sample(s) collected by: Kevin Steinke Kevin Steinke 5/9/19

Remitted to: Ned Carlson **Date:** 5/14/19 **Recipient Signature:** Ned Carlson

Remitted to: _____ **Date:** _____ **Recipient Signature:** _____

Remitted to: _____ **Date:** _____ **Recipient Signature:** _____

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Analysis by: Ned Carlson, Ned Carlson **Date:** 5/14/19 5/16/19
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Sample #	Location & Culture Media	Sample type (B) bulk (F) cassette filter (A) Andersen air (C) contact agar (T) tease tape (O) other; describe	Counts	Type and Number of Organisms
61	Phase IV Where the hallway turns by stairs	(F)		
62	Phase IV Unit 453 Framing Above Fridge	T		
63	Phase IV Mechanical Closet Outlet Box	T		
64	Phase IV Hallway between 456+457	(F)		
65	Phase IV Top of A/C Unit in N-S Hallway	T		
66	Phase IV Unit 457 Sub-floor truss in Living Room	T		
67	Phase IV Unit 456 Bathroom Door Frame	T		
68	Phase IV Unit 455 Above doorway into Guest Bedroom	T		
69	Phase IV Unit 454 Sub Floor Dryer Duct in Master Bedroom	T		
70	Phase IV Attic Space elec. wire Between 455+456	T		

Sample(s) collected by: Kevin Steinke 5/9/19

Remitted to: Nat Carlson **Date:** 5/14/19 **Recipient Signature:** Nat Carlson

Remitted to: _____ **Date:** _____ **Recipient Signature:** _____

Remitted to: _____ **Date:** _____ **Recipient Signature:** _____

Remitted to: _____ **Date:** _____ **Recipient Signature:** _____

Remitted to: _____ **Date:** _____ **Recipient Signature:** _____

Analysis by: Nat Carlson, Nat Carlson **Date:** 5/14/19 – 5/16/19
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Date of Sampling: 5/9/19

Sample #	Location & Culture Media	Sample type (B) bulk (F) cassette filter (A) Andersen air (C) contact agar (T) tease tape (O) other; describe	Counts	Type and Number of Organisms
71	Phase I Cavity below Ground Floor interior elevator 5-minute	(F)		
72	Phase I Cavity below Ground floor garage elevator 5-minute	(F)		

Sample(s) collected by: Kevin Steinke 5/9/19

Remitted to: Neil Carlson **Date:** 5/9/19 **Recipient Signature:** Neil Carlson

Remitted to: _____ **Date:** _____ **Recipient Signature:** _____

Remitted to: _____ **Date:** _____ **Recipient Signature:** _____

Remitted to: _____ **Date:** _____ **Recipient Signature:** _____

Remitted to: _____ **Date:** _____ **Recipient Signature:** _____

Analysis by: Neil Carlson Neil Carlson **Date:** 5/10/19 5/16/19
Printed Name / Signature

8.0 Sampling Results

N.G. Carlson Analytical, Inc.
216 16th Ave. S.W.
New Brighton, MN 55112 May 18, 2019

RE: Metropolitan 2900 7th Ave. S. Birmingham, AL 35233 – Sample collected by Kevin Steinke

Air-o-cell cassette samples (May 8 - 9, 2019)

9.0 Location (description from chain of custody)	Trace density	Primary Particles	Notes
1 – Phase I – Lobby - Ambient (75 liters)	Light trace	Char [4-5] Soot [<0.5] Carbon black [<0.5]	
3 – Phase I – Unit 130 – Ambient (75 liters)	Very Light trace	Char [1-2] Carbon black [<0.5]	
5– Unit 130 – West wall outlet (30 liters)	Moderate Trace	Char [<1] Carbon black [<1]	
9 – Unit 219 – Bedroom 1 – Ambient (75 liters)	Moderate Trace	Char [12-15] Soot [1-2] Carbon black [1]	
11 – Phase I – Unit 219 – Kitchen Island – Ambient (75 liters)	Moderate Trace	Char [1-2] Soot [<1] Carbon black [2-3]	
15 – Phase I – Unit 315 – Bedroom – Ambient (75 liters)	Light Trace	Char [12-15] Soot [2-3] Carbon black [4-6]	
18 – Unit 417 – Loft – Ambient (75 liters)		Char [10] Soot [2] Carbon black [5]	

21 – Phase II – Unit 238 – Bathroom Wall Cavity (30 liters)		Char [<1] Soot [<0.5]	
25– Unit 232 – Living Room – Ambient (75 liters)		Char [5-7] Soot [<1] Carbon black [<1]	.
28 – Phase II – North Hallway 3rd floor near Unit 342 – Ceiling Cavity (75 liters)		Char [10] Soot [2-4] Carbon black [1-2]	Fungal spores Asp/Pen ++ Chaetomium spp.
29 – Unit 336 – Kitchen Island – Ambient (75 liters)	Very Heavy	Char [45-50] Soot [5-8] Carbon black [1-2]	
31 – Phase II – Unit 344 – Bedroom 2 – Ambient (75 liters)	Very Heavy	Char [25] Soot [10]	Numbers are estimated as particle trace was very heavy
34 – Phase II – Unit 438 – Living Room Circuit Box (30 liters)		Char [3] Soot [15-20]	
10.0 38 – Phase II – Unit 137 **11.0** – Ambient (75 liters)		Char [4] Soot [<0.5]	Pine pollen
43 – Phase I – E. Exterior Wall – Behind siding (30 liters)		Char [<1] Soot [<0.5]	Stachybotrys spp. light.
44 – Phase I E. Exterior Wall – Medium Vent Duct (30 liters)		Char [<0.5] No Soot	

45 – Phase I – E. Exterior Wall – Large Vent Duct (75 liters)		Char [<0.5] No Soot	
48 – Phase IV – S. Exterior Wall – Exhaust Vent Duct (30 liters)		Char [10-15] No Soot	Pine Pollen
49 – Phase I – Roof – Inside A/C Unit housing of 118 or 218 (75 liters)		Char [6] Soot [<0.5]	Fungal ++++
53 – Phase III – Unit 445 (75 liters)		Char [5-7] Soot [<1] Carbon black [<1]	Asp/Pen ++
12.0 56 – Phase III – Unit 449 – By Kitchen Island (75 liters)		Char [1] Soot [<0.5] Carbon black [<0.5]	Asp/Pen ++
61 – Phase IV – Where the hallway turns by stairs		Char [1-2] Soot [<0.5]	Asp/Pen ++ Alternaria spp.
64 Phase IV – Hallway between 456 & 457		Char [<1] Soot [<0.5]	Asp/Pen ++
71 – Phase I Cavity below ground floor – Interior elevator (75 liters)		Char [2-3] Soot [<0.5]	Asp/Pen +
72 – Phase I Cavity below ground floor – Garage elevator (75 liters)		Char [8-9] Soot [2-3]	

Bulk and Tease tape samples (May 8 - 9, 2019)

13.0 Location (description from chain of custody)	Primary Particles	Notes
2 – Phase I – lobby – South window frame	Char [<0.5] No Soot	
4 – Unit 130– Baseboard	Char [1] Soot [1-2] Carbon black [<1]	
6– Unit 130 – Air Filter	Char [<1] Soot [<1]	Light *Stachybotrys spp.*
7 - Unit 130 – Inside Plenum	Char [3-4] Soot [1-2] Carbon black [1-2]	
8 – 2nd Floor Hall – North Painted Drywall	No Char Soot [3-10]	
10 – Unit 219 – Bedroom 2 – Door Trim	No Char Soot [5-10]	
12 Unit 219 – Bedroom 3 – Painted Drywall	No Char **Soot [30-40]**	
13- Unit 219 – Bedroom 1 – Closet Baseboard	Char [1] Soot [3-4]	
14 – Phase I – Floor 2 Mechanical Room – Painted Drywall	No Char **Soot [30-40]**	
16 – Unit 315 – Living Room Outlet Cover	Char [1] Soot [2-3] Carbon black [1]	
17 – Unit 315 – Bathroom Closet – Door Trim	Char [1] Soot [2-3] Carbon black [5-8]	

19 – Unit 417 – Loft - Baseboard	No Char Soot [1] Carbon black [1-5]	
20- Unit 417 – Bedroom – Window Sill	Char [<0.5] Soot [<0.5]	
22 – Unit 238 – North Wall – Window Sill	Char [4-5] Soot [1]	
23 – Phase II Unit 232 – Painted Dry Wall near sprinkler	No Char Soot [5-10]	
24 – Unit 232 Inside Plenum	Char [5] Soot [1-2] Carbon black [5-10]	
26 – Phase II North Hallway Outside Unit 240 – Insulation sample	Char [<0.5] Soot [<0.5]	
27 – Phase II – North Hallway outside Unit 240 – Wood ceiling joist	Char [10-20] Soot [1-2]	Heavy Debris
30 – Unit 336 – Living Room - window trim	Char [4-6] Soot [2-3] Carbon black [3-5]	
32 – Unit 344 – Master Bed - Window sill	Char [1-2] Soot [5-7] Carbon black [7-12]	
33 – Unit 344 – Guest Closet - Baseboard	Char [1-2] Soot [10-15] Carbon black [25-30]	
35 – Unit 438 – Living Room – Painted Dry wall	Char [<1] Soot [10-12] Carbon black [1-2]	

36 – Unit 442 – Living Room – Doorbell Casing	Char [1-2] Soot [1-2] Carbon black [1-2]	
37 – Unit 442 – Master Bath – Mirror Trim	Char [1-2] Soot [3-4] Carbon black [4-5]	
39 – Unit 137 – Interior Wall Framing	Char [10-12] No Soot	Very heavy debris
40 – Unit 137 – West Exterior wall - Insulation	Char [<0.5] No Soot	
41 – Phase IV – S. Exterior wall – Behind siding	Char [1] Soot [2-3]	
42 – Phase I – E. Exterior wall – behind siding	No Char Soot [15-20]	.
46 – Phase I – E. Exterior wall – Large vent duct (same as #45)	Char [20-25] Soot [1-3] Carbon black [1-3]	Heavy pollen and pine pollen
47 – Phase I – E. Exterior wall – Exhaust vent duct	Char [3-8] Soot [1-3] Carbon black [10-20]	Fungal ++ Heavy pollen and pine pollen
50 – Phase II – Roof – A/C cover of Unit 437 or 337	Char [1] Soot [5-10]	Fungal ++++ Spotty soot
51 – Phase III – E-W Hallway – A/C Unit by Unit 447	Char [3-8] Soot [2-5] Carbon [1]	Fungal ++++

52 – Phase III – Unit 447 – Master Bedroom Door header	Char [7-15] Soot [2-5] Carbon black [3-5]	Fungal +++
54 – Phase III – Unit 446 – Bedroom window sill	Char [4-8] Soot [1-2] Carbon black [1-3]	Fungal +
55 – Phase III – Unit 448 – Hallway Stud wall	Char [2-5] Soot [1] Carbon black [3-8]	Fungal +++
57 – Phase III – Unit 450 – Master bedroom Light switch box	Char [4-10] Soot [1] Carbon black [2-5]	Fungal +++
58 – Phase III Unit 451 – Master Bath stud wall	Char [5-10] Soot [2-3]	Asp/pen like ++
59 – Phase III Unit 452 – Living Room Window frame	Char [2-4] Soot [1] Carbon black [10-20]	Fungal +
60 – Phase III – In-ceiling A/C Duct (top) outside Unit 445	Char [8-12] Soot [1-2] Carbon black [2-5]	Fungal +++
62 – Phase IV Unit 453 – Framing above fridge	No Char No Soot	Aspergillus ++++ Other fungal Insect parts
63 – Phase IV – Mechanical Closet outlet box	Char [5-10] Soot [2]	Aspergillus ++++
65 – Phase IV – Top of A/C unit in N-S Hallway	Char [1-3] Soot [15-20]	Asp/Pen ++++ Stachybotrys + Other fungal growth
66 – Phase IV – Unit 457 – sub floor truss in Living room	Char [8-15] Soot [1-3]	Asp/Pen ++++ Other fungal ++++

67 – Phase IV – Unit 456 – Bathroom Door Frame	Char [15] Soot [1-2]	Asp/Pen ++++ Alternaria spp. +
68 – Phase IV Unit 455 – Above doorway into guest bedroom	Char [2-5] Soot [<1]	Asp/Pen ++++ Trichoderma spp. ++++
69 – Phase IV – Unit 454 – Subfloor dryer duct in Master Bedroom	Char [2-5] Soot [<1]	Asp/Pen ++++ Sordaria spp. ++
70 – Phase IV – Attic Space Elec. Wire between 455 & 456	Char [1] Soot [<1]	Asp/Pen ++++ Other fungal ++++

Carbon black, char, and soot like particle interpretation:

Less than 0.5 particles per field (400x) – negligible impact of smoke
0.5 and 2.0 particles per field (400x) – limited impact of smoke
2.0 and 10 particles per field (400x) – moderate impact of smoke
10 – 50 particles per field (400x) – Significant impact of smoke
> 50 particles per field TNTC – Major impact of smoke
* Several large clusters of soot-like particles noted

Fungal spore interpretation: Modified from IICRC S520.

0 No spores present
+ Normal spore deposition
++ Heavier than normal spore distribution no growth noted
+++ Spotty fungal growth
++++ Heavy Fungal growth

Methods:

The bulk, swab, and tease tape samples were identified under light microscopy viewed at 100x, 200x and 400x. Lacto fuchsin stain in 85% lactic acid was used to aid in identification.

No chemical identification was conducted on the soot-like, char-like particles, and carbon black-like particles. Presumptive identification was based on particle morphology.

Discussion:

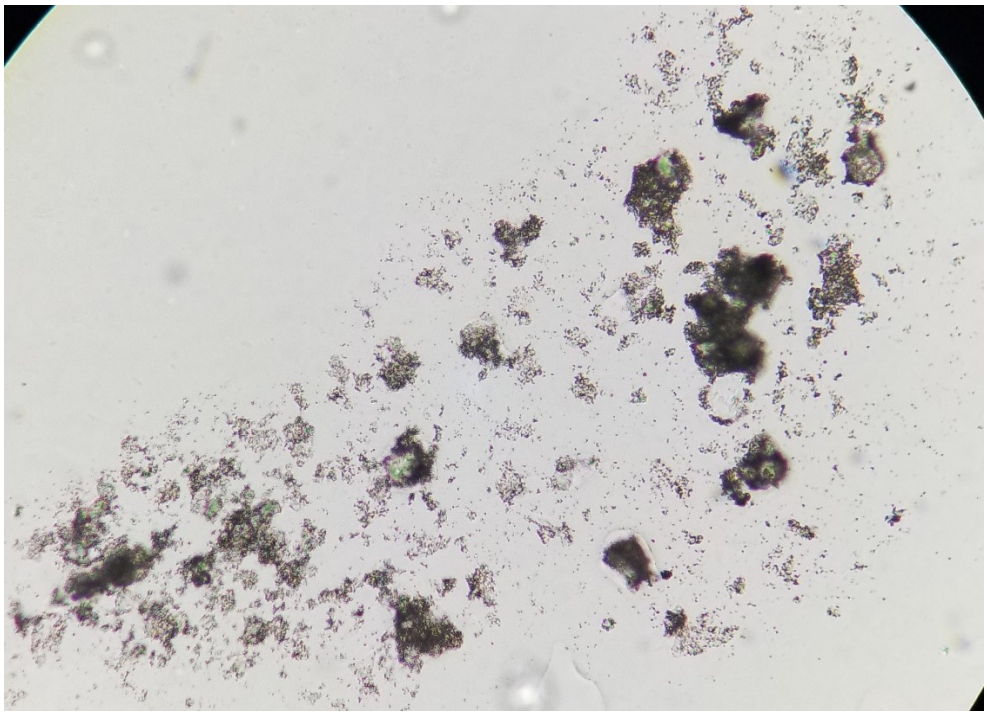
Soot levels varied from Negligible to Significant on the Air-o-cell cassette samples
Char levels varied from Negligible to Significant on the Air-o-cell cassette samples
Carbon black levels were Negligible to Moderate on the Air-o-cell cassette samples

Soot levels varied from Negligible to Significant on the bulk and tease tape samples.
Char levels varied from Negligible to Significant on the bulk and tease tape samples.
Carbon black levels varied from Negligible to Significant on the bulk and tease tape samples.

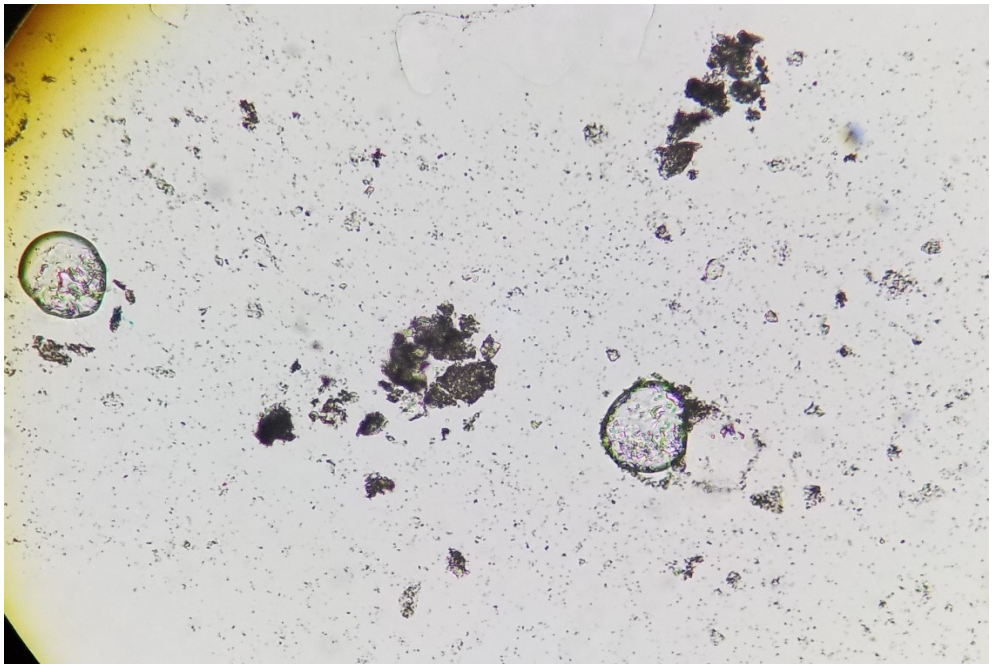
Sincerely,

Neil G. Carlson, C.I.H.
N.G. Carlson Analytical, INC.
http://sites.google.com/site/ngcarlsonanalyticalinc/

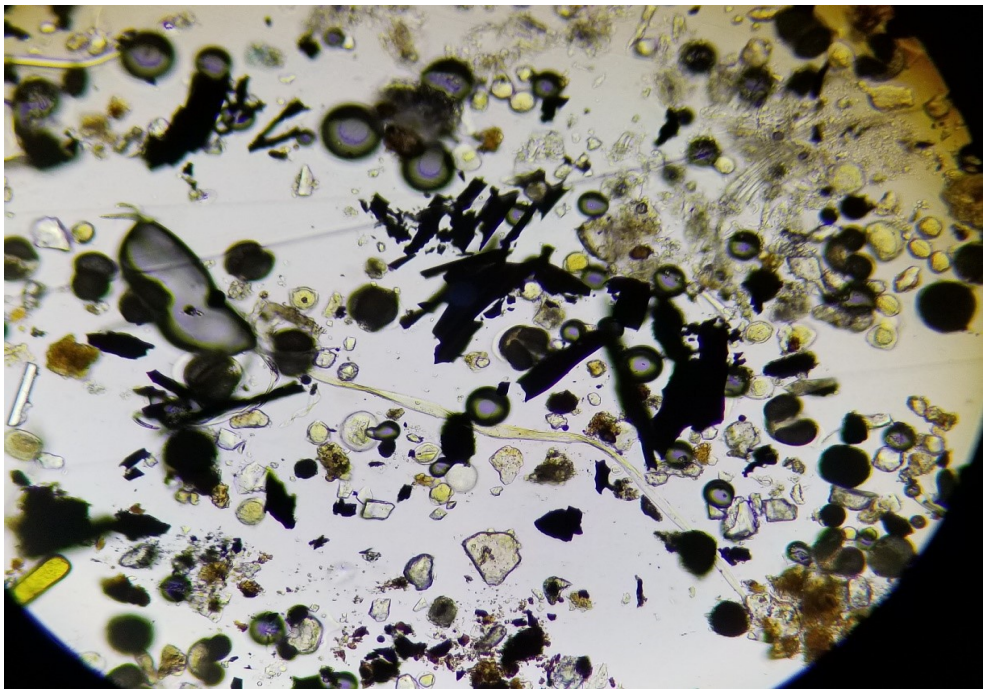
Photos:



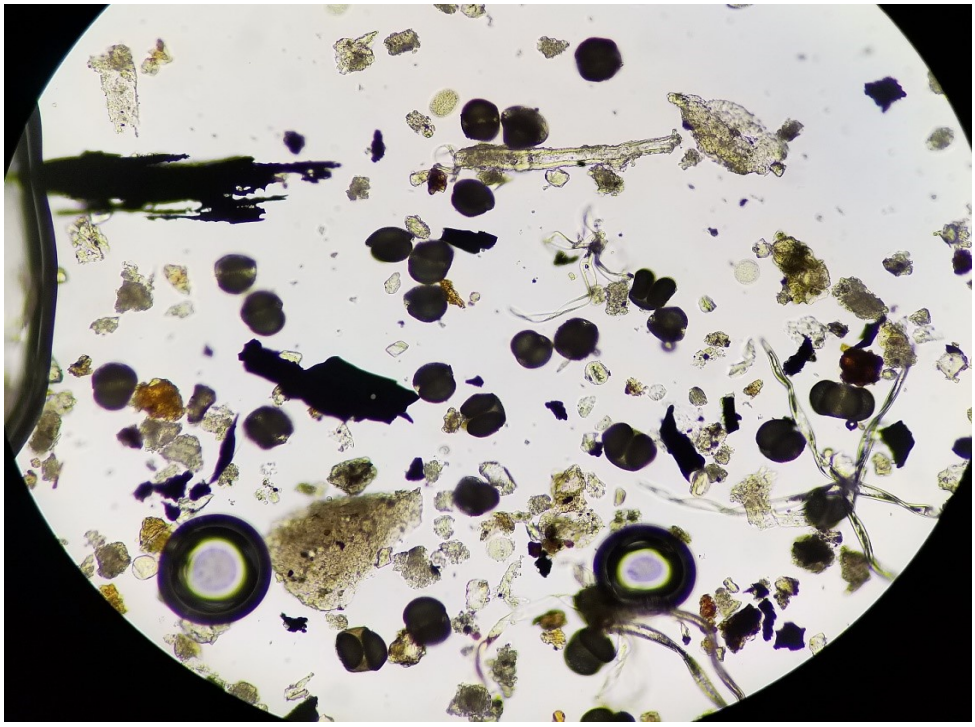
#12 Char-like particles



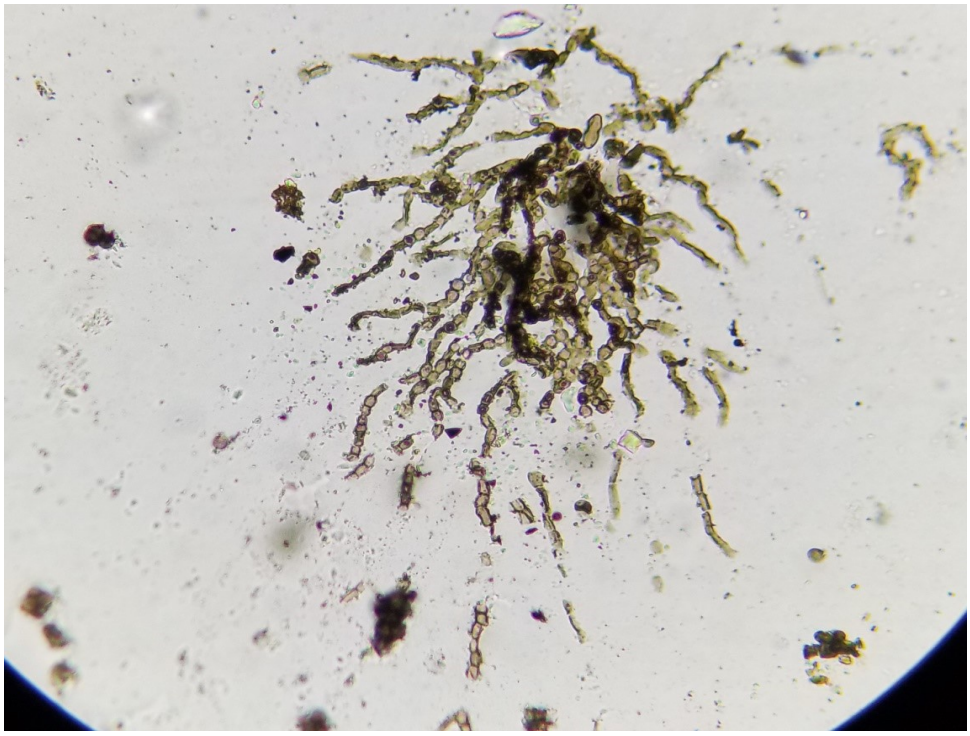
#14 Soot-like particles



#46 Char-like particles and pollen spores

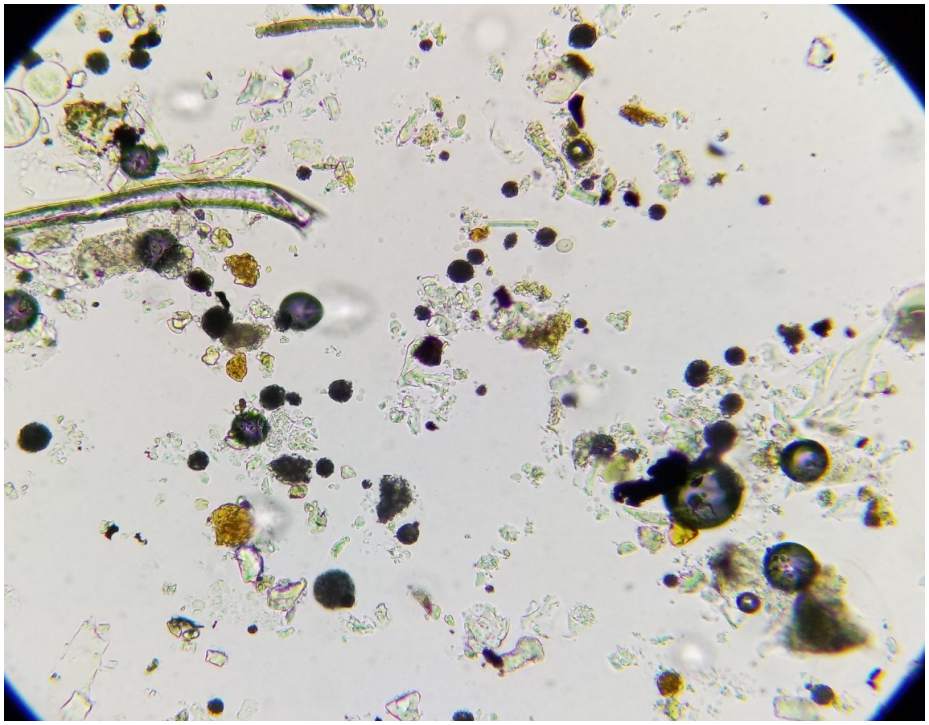


#48 Char-like particles and pine pollen

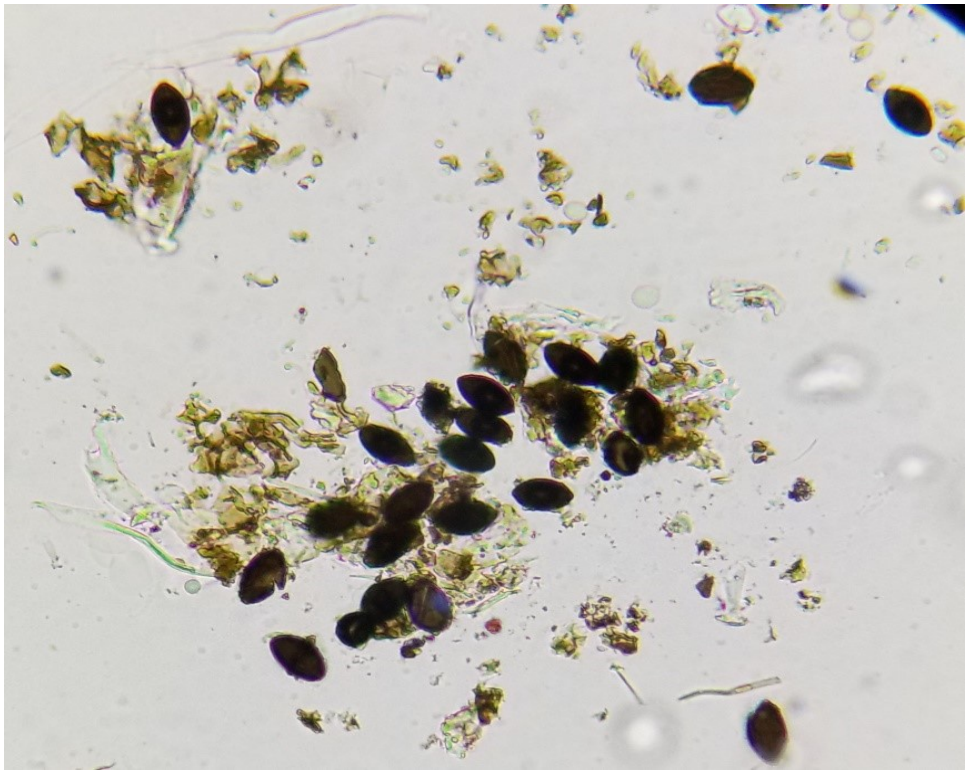


#50 Tease tape – Fungal growth – Soot-like particles

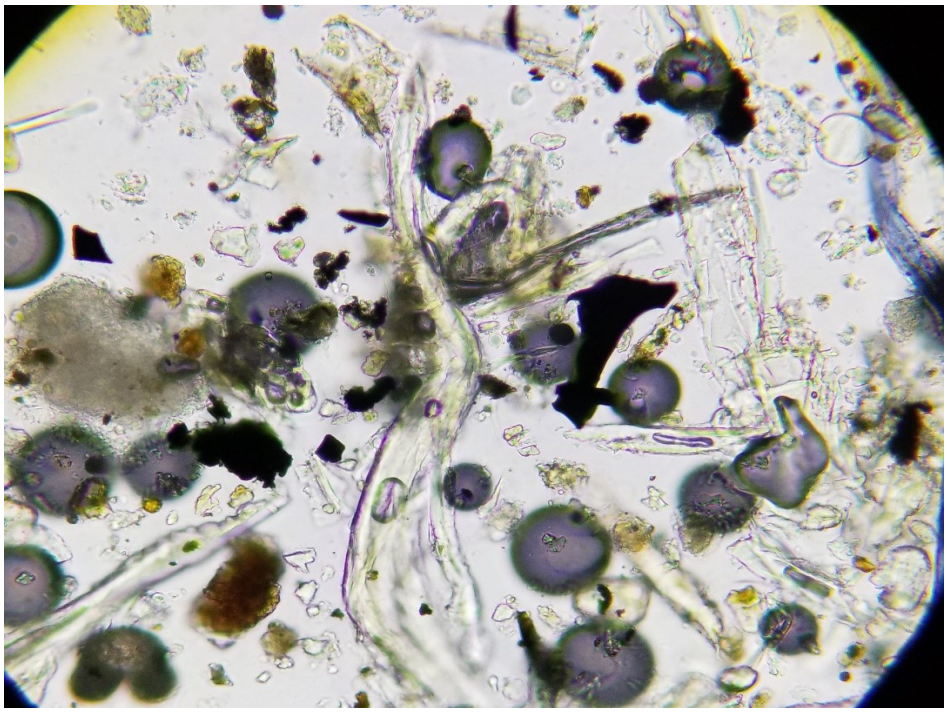
55 Asp/Pen like spores



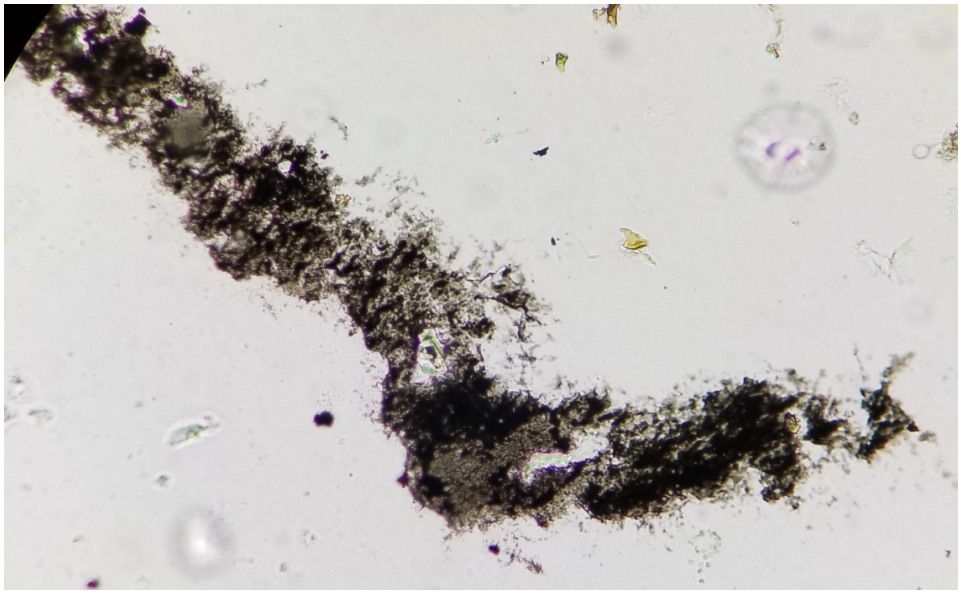
#59 Carbon black–like and char-like particles



#62 other fungal growth



#63 Char-like particles



#65 Soot-like particles – Very spotty on this sample

9.0 Conclusions:

A total of 72 air, tape and bulk grab samples were submitted to N.G. Carlson. Of the 72 air, tape and bulk grab samples taken and submitted for analysis, some level of byproducts consistent with the fire were found in all the samples, including soot, char, and ash (100%). Of the 72 samples taken and submitted for analysis, 12 samples showed less that 1% of soot, char, and ash. The remaining 60% of samples had results in excess of 1%.

Byproducts from the fire including; soot, char and ash were collected in partition walls, ducting, light fixates, mechanical and electrical chases and dropped soffits within units, and unit separation walls and ceilings.

The open bypasses and lack of sealed separation between the units and the common area, in conjunction with the placement of common mechanical and plumbing chase ways an the 4-story elevator shaft created a massive convective loop at the fire origin location forcing smoke and particulate byproduct into concealed spaces throughout the building. Video taken during the fire and posted online shows the smoke existing above, below and on either side of the fire.

There is no way to effectively remove all particulate matter distributed during the fire from the concealed spaces without removal of the wall and ceiling gypsum and plaster covering and removal of all wall and ceiling coverings. Even areas where light soot was found will be cross contaminated during removal of materials to access where higher concentrations of soot were located.

While "Means and Methods" for reconstruction will be the responsibility of the contractor, typical repairs will require liberal use of environmental engineering controls and daily monitoring to ensure safe occupancy in the units already rented. In units that are occupied and in common areas, removal of wall and ceiling materials and installation of plastic containments will make continued occupancy inconvenient. Based on our education, training and experience, repairs will be done more cost effectively if the building is vacated.

Damage to the property caused by fire, smoke, soot, and water occurred on September 27, 2018. It is the opinion of Forensic Building Science, Inc. that:

- The remaining building that was flooded by the fire department should be razed to the slab and then rebuilt and that costs to clean and repair would exceed tear down and rebuild. [See Preliminary Phase 5 protocol for possible rebuild scenario below]
- The portions of the remaining attached structures that were under construction at the time of the loss but not occupied should have all materials and finishes now in place removed to expose all framing for cleaning and sealing. This would include removal of all windows and all mechanicals.
- The portions of the structure that were occupied should have wall finishes removed to exposed framing and mechanicals for cleaning and sealing. Windows should be removed, cleaned and reinstalled. All ducting should be cleaned.
- The entire parking structure should be encapsulated and cleaned to remove all remaining contaminants from the structure and its concealed spaces.

  The Department of Planning Engineering and Permits staff will have to ascertain the viable reuse of its mechanicals based on its status of 'non-habitable'. This may require certification of the mechanicals by engineers and/or manufacturer's approved representatives.

Please note: The remaining fire-damaged structures next to the surviving structures will continue to contaminate the newly constructed replacement buildings as the wind will blow the soot and mold into the intakes of all mechanical equipment, open windows and doors, and conveyances into the structures until removed by their owners.

This is a panoramic picture of the remaining fire-damaged site. It consists of two buildings side-by-side that are in various states of damage.

The two remaining structures that remain will continue to contaminate the Metropolitan as the char, soot, and mold are blown off these structures and throughout the Metropolitan structures. To totally remediate the char, soot, and mold these buildings must be demolished and the remaining site graded to prevent ponding.

10.0 Code Discussion:

When the original structure was built the State of Alabama was under the buildings were under the 2009 International Building Codes as created by the International Code Council (ICC). Effective 1 July 2016, the State of Alabama changed its laws to update the state building code to the 2015 International Building Codes. This will add significant costs to building replacement buildings under the newer version of ICC building codes.

IMPLEMENTATION OF STATE BUILDING CODE		
Any plan submittal	Received before July 1, 2016	*2009 International Building Code*
Any first-time plan submittal (including schematic, preliminary or final)	Received on or after July 1, 2016	*2015 International Building Code*
Any second or subsequent plan submittal where the first submittal was received before July 1, 2016	Received on or after July 1, 2016 and before January 1, 2017	*2009 International Building Code* or *2015 International Building Code*
Any plan submittal	Received on or after January 1, 2017	*2015 International Building C*

STATE OF ALABAMA
DEPARTMENT OF FINANCE
Division of Construction Management

770 Washington Avenue, Suite 444
P.O. Box 301150
Montgomery, Alabama 36130-1150
Telephone: (334) 242-4082 Fax: (334) 242-4182

Robert Bentley
Governor

Bill Newton
Acting Finance Director

Frank Barnes
Director

June 7, 2016

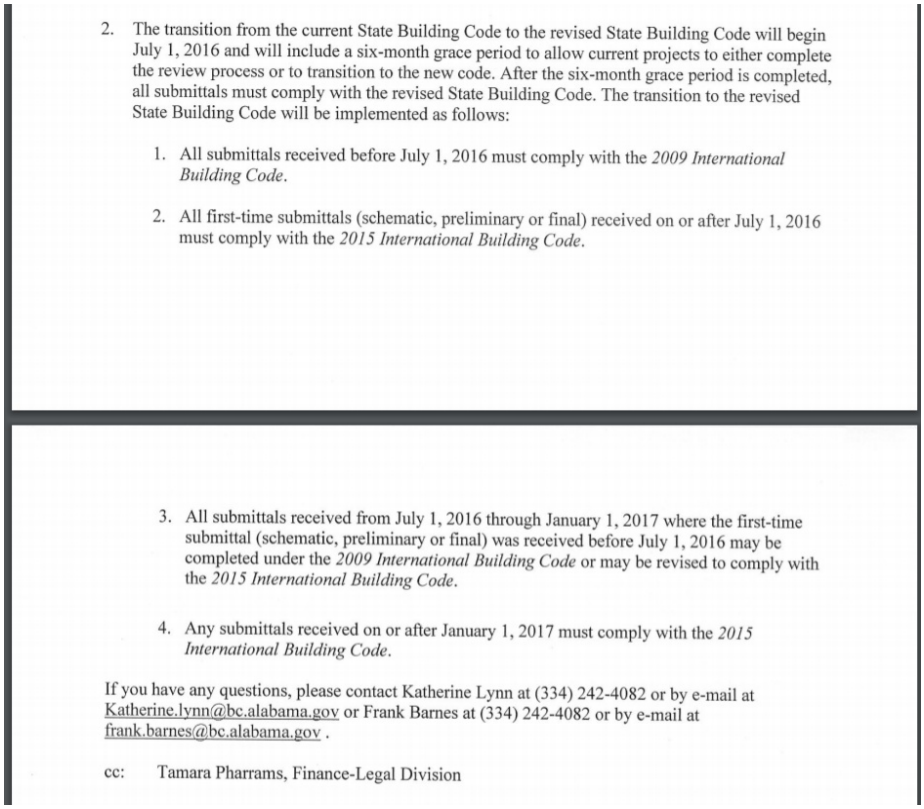
TO: ARCHITECTS AND ENGINEERS

FROM: KATHERINE LYNN, ASSISTANT FINANCE DIRECTOR
FRANK BARNES, DIRECTOR, DIVISION OF CONSTRUCTION MANAGEMENT

SUBJECT: REVISION TO THE STATE BUILDING CODE

1. Effective July 1, 2016, the Department of Finance, Division of Construction Management (formerly the Alabama Building Commission), will adopt, promulgate and enforce the *2015 International Building Code* as the State Building Code. The following companion codes shall be included:

2015 International Plumbing Code
2015 International Mechanical Code
2015 International Fuel Gas Code
2015 International Fire Code
2014 National Electrical Code (NFPA 70)
2013 National Fire Alarm and Signaling Code (NFPA 72)
2014 ACC/NSSA Standard for the Design and Construction of Storm Shelters
ANSI/ASHRAE/IESNA Standard 90.1-2013 Energy Standard for Buildings Except Low-Rise Residential
2010 ADA Standards for Accessible Design



2. The transition from the current State Building Code to the revised State Building Code will begin July 1, 2016 and will include a six-month grace period to allow current projects to either complete the review process or to transition to the new code. After the six-month grace period is completed, all submittals must comply with the revised State Building Code. The transition to the revised State Building Code will be implemented as follows:

    1. All submittals received before July 1, 2016 must comply with the *2009 International Building Code*.

    2. All first-time submittals (schematic, preliminary or final) received on or after July 1, 2016 must comply with the *2015 International Building Code*.

    3. All submittals received from July 1, 2016 through January 1, 2017 where the first-time submittal (schematic, preliminary or final) was received before July 1, 2016 may be completed under the *2009 International Building Code* or may be revised to comply with the *2015 International Building Code*.

    4. Any submittals received on or after January 1, 2017 must comply with the *2015 International Building Code*.

If you have any questions, please contact Katherine Lynn at (334) 242-4082 or by e-mail at Katherine.lynn@bc.alabama.gov or Frank Barnes at (334) 242-4082 or by e-mail at frank.barnes@bc.alabama.gov .

cc: Tamara Pharrams, Finance-Legal Division

11.0 Cross Contamination Mitigation - Entire Structure:

Construction should commence and environmental controls must be in place (HEPA units and containments) in a sequence that allows for separation of units that have been cleaned and sealed from units that have not been cleaned. Prior to installation of finish materials, unit and common area clearance sampling must be done to assure dangerous particulate matter has been removed and cross contamination has not occurred. This will likely necessitate removal of all designated material from the entire building to access the hidden cavities and effect repairs rather than attempting to facilitate repairs one floor at a time.

12.0 Preliminarily Repair Option Phase 5:

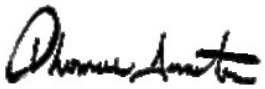
1. Under the direction of a licensed structural engineer install shoring sufficient to hold all floor and roof assemblies in place. This will likely include removal of slab sections at lowest level for installation of temporary footings at point load locations.
2. Remove all exterior sheathing and windows. Save window for possible reinstallation. Replace any damaged windows removed during this operation.
3. Jack up exterior walls and either remove or jack up interior non-load bearing walls interior partition walls sufficient to removal all OSB subfloor. Jacking should be done in such a way that damage to floor and roof trusses does not occur.
4. Remove all electrical and mechanical and replace.

5. Remove roof assembly including insulation to replace roof deck.
6. HEPA Vac all framing members.
7. Spray all framing members with BIN sealer.
8. Install new subfloor.
9. Reattach walls to subfloor.
10. Install new sheathing.

Discovery is ongoing. Additional sampling, testing and inspections may need to be performed and additional and/or supplemental information and opinions may be contained in future reports issued by Forensic Building Science, Inc. This report is the exclusive property of the client noted previously and cannot be relied upon by a third party. Copies of this report are released to third parties only by written permission of the client.

Please contact our office should you have any questions or need additional information.

Respectfully submitted,



June 5, 2019

Tom Irmiter, President, Forensic Building Science, Inc. Date
Building Causation, Code and Damages Consultant

Franklin Martin *5 June 2019*

Franklin Martin, Forensic Building Science, Inc. Date
Building Causation, Code and Damages Consultant